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# ***JPRS Report***

# **Science & Technology**

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***Central Eurasia:  
Science & Technology Policy***

# Science & Technology

## Central Eurasia: Science & Technology Policy

JPRS-UST-92-013

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31 December 1992

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### Vice Premier on Russian Science Recovery

934C04104 Moscow IZVESTIYA in Russian 26 Nov 92  
Morning Edition p 3

[Interview with B. G. Saltykov, deputy prime minister of the Russian Federation Government and minister of science, higher education, and technical policy, by IZVESTIYA science commentator Boris Konovalov; place and date not given: "The Rumors About the Death of Russian Science Are Exaggerated"]

[Text] [Konovalov] Boris Georgiyevich, our army of scientists, still quite large, is quickly becoming impoverished. Even senior research associates sometimes make 2,500 to 3,000 rubles [R] at present. It is impossible to get by on this kind of money. Despite the fact that our government is headed by a scientist, it turns out that it rather acts in the interests of bankers, who are rapidly growing rich through insanely expensive loans, and of speculators, who have filled the streets and do not pay any taxes to the state....

[Saltykov] Indeed, the scientists' situation is calamitous. I believe that it is necessary to substantially adjust the government's policy for many reasons, of which the calamitous situation of science, education, culture, and health care is not the least. However, the government certainly did not set the goal of supporting bankers or speculators to the detriment of the interests of employees in budget-financed sectors.

Let us try to analyze calmly the real situation in which we currently operate. In December of last year we counted on receiving 20-30 percent less funding from the state budget in 1992 than we did in 1991. However, it is now clear that actually, in comparable prices, outlays on civilian science will be smaller than last year by approximately a factor of three (!). This is happening while orders for research, development, and experimental design work from industry have also declined simultaneously by approximately a factor of 10. I can only wonder and admire our scientists and designers for being able to survive and continuing to work under such circumstances, as they display miraculous feats of perseverance and ingenuity. To my mind, only Russian science could withstand this shock. Of course, as a minister I am ashamed of the meager salaries which many skilled scientists draw.

They began to object to me when, early in the year, I began to call on research collectives to look for new sources of financing, including sources from abroad. Only the state may and should preserve domestic science at present, they said. Nobody is disputing this! The state now remains virtually the only "guardian" of science. The percentage of total outlays on research, development, and experimental design work accounted for by the federal budget has increased from 55 to more than 80 percent during this period of time. This is the limit of the

[Konovalov] Does the government fail to understand that Russia has no future without science?

[Saltykov] Of course the government understands. The preservation of science and the comprehensive use of its accomplishments are certainly in the strategic interests of Russia. The government is aware of the tremendous national value of science and understands that it is responsible for its future. However, science cannot remain a detached "ivory tower" at a time of gigantic social shocks. There is every reason to refer to the mistakes and lack of dispatch on the part of the government and wasted opportunities. Such talk unavoidably accompanies all crises when decisions are made and carried out in the environment of very great uncertainty, the severance of existing relations, and the erosion of executive power. Such talk is a necessary outlet, a necessary means of mental therapy, especially for people who are wise after the fact. However, ultimately the content of any program hinges primarily on the essence of the fundamental choice made, and only after that, on the skills of the worker and the effectiveness of execution.

The only thing which may strike us today is the inertia of thinking of a considerable segment of the Russian intelligentsia, who still fail to appreciate the profundity of the shock which Russia is experiencing.

However, shocks of this kind in a huge country cannot be the result of conspiracies by kike-freemasons, the CIA, Gorbachev, or Yeltsin. They are the result of an irrevocable choice made by the most influential and active social forces of society. In Russia this choice was made primarily by the intelligentsia, despite the fact that students, young employees of the state apparatus, skilled workers, and some peasants were likewise the bearers of ideas which lead to the establishment of democracy and market relations.

I believe that a majority of reasonable people stand by this choice at present as well, despite all the difficulties of the crisis we are experiencing. We had to get across the precipice; virtually everyone agrees with this. Whatever one thinks about the construction of socialism, the potential of this concept was entirely depleted once enthusiasm had been snuffed out and opportunities for the extensive use of resources had been exhausted. It became necessary to modernize the economy and society and to bridge the gap separating us from developed countries. However, it is absolutely obvious to me that we will be able to arrive at democracy and market relations only by way of Russian traditions.

[Konovalov] I would like to recall that, during the post-October Revolution period, which was no less difficult for the country, the Bolshevik government came up with the money and resources to set up quite a number of institutes which became the pride of our national science. At the time, the impoverished and debilitated

condemn the flaws of our science, it is impossible to overlook the fact that the powerful scientific potential which has been created is one of the main riches of Russia. It is painful to watch at present how this potential is being destroyed—some are going abroad, others are taking up commerce....

[Saltykov] I agree that it is painful. Our main task is to preserve the people, rather than the superficial forms, of science. In the USSR science was, in terms of its structure and genetic code, an integral part of the state monster which we are now restructuring with such pain.

The dismantling of the old monopolistic system unavoidably calls for a profound transformation of the scientific structure which is built into it. Are predictions of a catastrophe legitimate at this time? As I see it, they are not. Certainly, organizational forms influence the activities of a scientist. Still, they are merely an outer shell with regard to such activities. The breakup of such forms is painful but is not lethal to science. For example, the ministry as the monopolizing structure disappears, and scientists welcome this. However, in the process they lose their base; it turns out that sectoral scientific research institutes, which were part of this structure, must be radically restructured. Attempts to curtail this process and to "continue centralized funding" are worse than just unsound; they distract people from active and urgent efforts to find a new organization, a new relationship with society.

On the other hand, I see clearly that there is a limit to the ability of the system to adapt, and as I see it, we have come very close to it.

As far as the emigration of our scientists abroad is concerned, it is not all that unambiguous. Indeed, at present the "brain drain" troubles and pains us because, in science, every person is an individual, a talent whose loss frequently becomes irreparable. However, let us take a different view of this. Many scientists who have gone abroad are working there under temporary contracts. I am confident that most of them will return to Russia enriched with the experience and skills of the best laboratories of the world. You have mentioned the time following the October Revolution; if so, we should recall how some of our institutes and schools were created. After working in E. Rutherford's laboratory, Academician P. Kapitsa founded the famous Institute for Problems of Physics in Moscow and created a marvelous domestic scientific school. Incidentally, equipment for the institute was a gift from Rutherford. Academician Yu. Khariton, the science director of the now widely known Arzamas-16, in which our nuclear weapons were developed, was also trained at E. Rutherford's laboratory. N. Semenov, A. Ioffe, and many other luminaries of our science also traveled this path of training abroad.

The excessively slow development of our scientific and technical relations with foreign partners is what we

that we will be able to integrate with the world community with greater ease and speed. Our industrialists and entrepreneurs are yet to master a common (market-based) language of the West, whereas there is no need for scientists to do so: They have long been speaking the same language. Science is international. At present, this is one of the few areas in which we are partners on an equal footing and are of interest to the entire world. We should urgently study trends in the new market for scientific and technical products, and refrain from selling for \$1,000 something that costs \$1 million. It is in this that the state should help our scientists.

[Konovalov] We hear frequently that the West will help us, whereas an old Russian maxim says: "God helps those who help themselves." Could you refer to specific measures which have been taken or are being taken with a view to preserving the scientific potential of Russia?

[Saltykov] First of all, a normative foundation has been laid for regulating relations in the sphere of intellectual property—four laws (including a patent law). This is very important for protecting intellectual property. The program segment of the budget will be increased, and programs themselves will be renewed. A system of independent foundations is being formed which will finance scientific collectives by providing grants. The main one among them, the Russian Foundation for Basic Research, is beginning to operate in Moscow. The foundation for supporting young scientists is being set up in Novosibirsk at the facilities of the Academic City and the University. In St. Petersburg, a regional foundation for scientific and technical development is being set up.

Foreign foundations are embarking on actual operations to support Russian scientists: the European Foundation (4 million ECU [European Currency Units]) and the McArthur Foundation in Moscow (\$3 million). The U.S. National Science Foundation is increasing assistance considerably. The U.S. Administration is considering the possibility of allocating \$25 million. Considerable amounts have been allocated to this end in Italy, England, and other countries.

Finally, the decision has been made to exempt foreign grants from taxes, and equipment and scientific instruments delivered through this arrangement, from customs duties.

Work is underway on creating federal scientific centers which are called upon to preserve comprehensive scientific schools and ensure the reproduction of scientific-technical potential in key sectors.

We propose to stimulate innovation-oriented activities of enterprises through credit and tax policy provisions and special-purpose subsidies. We will support the creation of small enterprises at the facilities of scientific research institutes and design bureaus, as well as the

We vigorously support the integration of institutes of higher learning and research organizations through using their associates as instructors, financing educational programs at both the scientific research institutes of the Academy of Sciences and sectoral institutes, and creating joint instruction and research centers and specialized institutions of higher learning of the "advanced type." The state provides incentives for the creation of commercial and nonprofit technology parks, instrument centers, and research-intensive production at the facilities of liquidated scientific research institutes, including those which use, in part, their staff and their wage funds.

The future of our research settlements is yet another problem. Many of them (Obninsk, Pushchino, Dubna, Chernogolovka, and others) came up with the initiative to open research-type universities there. We are finalizing such initiatives through legislation which will make it possible to use the freed-up potential of research facilities most efficiently, while at the same time creating new centers for the training of highly skilled cadres. We will also have "Russian Princetons!" A government decision on establishing a university at Pushchino has already been adopted.

[Konovalov] Will we finally abandon the principle "a little bit to each" and provide special support for those who are talented?

[Saltykov] As early as the beginning of this year we announced a policy of priority funding for strong competitive sectors. Figuratively speaking, at present we can only afford to work rich gold veins while keeping poor "deposits" in reserve until better times.

We should admit frankly that so far we have not been able to abandon the "pouring" of state funds evenly into scientific structures which have emerged over decades. The reasons are found not only in the management system being awkward, and the monthly financing arrangement being unacceptable for science, but also in the powerful opposition of a certain segment of the scientific community to cutbacks in research projects which are not promising but customary. Unless we overcome this we will not provide the conditions for full-fledged operations in areas of high priority.

While acknowledging the excessive procrastination of the authorities in making urgent decisions, we should note that a number of important steps have been taken, after all. Let us note in all this that despite the principle of selectivity we are building our science policy on the basis of state support for science as an organic entity with its characteristic sectoral and regional structures.

In summation I would like to stress the following. The situation of our science does not appear hopeless to me. Indeed, the coming two or three years will be difficult, perhaps very difficult. However, the intellectual potential of Russia is quite great; the scientific community and the intelligentsia still enjoy great authority in our society.

from scientists, instructors, and deans of institutions of higher learning, the entire intelligentsia of Russia, and without proceeding from their views. We will only be able to find wise solutions together.

### **New Ukrainian Academy To Coordinate Information Science Effort**

937A0043C Kiev GOLOS UKRAINY in Russian  
5 Nov 92 p 7

[Article by Vice President of the Ukrainian Academy of Information Science Leonid Reshodko and Vladimir Slipchenko, professor of Kiev Polytechnical Institute, under the rubric "On a Topic of the Day": "Information Science Is a Strategic Science"—first two paragraphs are GOLOS UKRAINY introduction]

[Text] The U.S. Congress recently approved the bill "On the Preservation of the Advantage of the United States in the Area of Information Science." In the country \$100 million are allocated annually for basic research in this sphere (in addition to approximately the same amount that the American Department of Defense makes available for these purposes).

In the area of information science Ukraine is 25-30 years behind the leading countries of the work, and this trend is increasing. The recently established Ukrainian Academy of Information Sciences is proposing specific solutions of this problem.

One of the features of the present stage of the development of world civilization is the informatization of society. In Europe this process began several decades ago, and first of all in countries with a developed market economy. Is it necessary to prove once again the truisms that under the conditions of a market, when an entrepreneur is forced to take a risk when making a decision at a low level of the production infrastructure, information becomes an important strategic resource, the lack of which leads to the unprofitability of production, the inefficient use of manpower and material resources, and, finally, the inability of products to compete?

The main reason for the latter, as compared with the developed countries of Europe, is the changeover of Ukraine, just as the entire former USSR, to informatization—in the absence of a social order for information as a strategic resource. Today our state has adopted a firm policy of a market economy, therefore, the informatization of Ukrainian society has become one of the decisive factors of the transition from an administrative command economy to a market economy, a priority direction of scientific and technical progress, and a guarantee of the integration of Ukraine in the world.

On the basis of the experience of the leading European countries—England, France, and Germany—in which the corresponding state structures at the level of ministries or committees were established at one time for the

opinion, it is advisable to go to the President of Ukraine with a proposal on the formation of a national committee of Ukraine for questions of the informatization of society. Such a committee would be in charge first of all of the entire information network of the country, which under the administrative command system united computer centers, which were set up according to the departmental or regional principle and are faced with the problem of dissolution or elimination.

Moreover, the committee would assume the important functions of the drawing up of forecasts and drafts of state plans and programs on the basis of the study of the actual and long-range needs of society as a whole and the economy in particular, as well as the establishment of bodies for the management of the process of informatization. The committee would also perform the functions of a state register of the information resource being created in Ukraine and would ensure the development of the information science industry and its infrastructure. Through the Committee as a representative body of the state Ukraine could cooperate with two basic international programs of the informatization of society—the American Strategic Program of Information Technologies and the European Strategic Program for Research and Development in Information Technologies, or ESPRIT in short, in which all the countries of the European Community are united. The latter program is of particular interest for Ukraine on the level of the future integration of our young country in the world.

ESPRIT encompasses all the directions of science and technology in the sphere of information technologies—microelectronics, information processing systems, and a wide range of applied uses, starting with business offices and ending with the information supply of governmental and state structures of the European countries. Scientists and businessmen regard participation in ESPRIT as a very prestigious matter, around which hundreds of the best scientific collectives and firms have been concentrated.

Officially ESPRIT, a 10-year program, originated in late 1984 as a guarantee of the successful competition in the 1990s of the European economy and information technologies with the American Strategic Program of Information Technologies.

The recently organized Ukrainian Academy of Information Science is called upon to unite the uncoordinated scientific and production potential of Ukraine in the sphere of information science, information technologies, and the informatization of society. Among the basic directions of its activity are basic and applied research and their coordination, the promotion of the development and introduction in production of new technologies and information processing equipment, and cooperation with other Ukrainian and foreign firms and

Life itself posed the question of the organization of the Ukrainian Academy of Information Science. It also requires the establishment of a state body—a national committee for informatization under the President of Ukraine or under the Cabinet of Ministers. Ukraine with the rights of a member of the "European home" will constantly feel the influence of the intellectual, information, industrial, and financial concepts of "united Europe," and first of all on the level of informatization—the influence of ESPRIT, which all the countries of the European Community are fulfilling.

### Academician Moiseyev Pessimistic About Academy's Future

937A0047B Moscow POISK in Russian No 44 (182), 30 Oct-5 Nov 92 p 3

[Interview with Academician of the Russian Academy of Sciences Nikita Nikolayevich Moiseyev, by Mikhail Dubrovskiy, under the rubric "What Is Science To Be Like?"; place and date not given: "They May Prove Useful to Us in About Five to 10 Years"—first paragraph is POISK introduction]

[Text] Much has been said and written about what to do with our slowly, but inevitably dying science. Including in POISK. Therefore, at the beginning of the conversation with Full Member of the Russian Academy of Sciences Nikita Nikolayevich Moiseyev we specially agreed: We will not make banal remarks. A word, which has been spoken, but has not stood the test of life, is a lie. Therefore, we will not lie. However, we began to all the same from the beginning—the conversation began with a question which journalists ask people of science over and over again.

[Dubrovskiy] Our ship of science is sinking. Is it possible to save it, Nikita Nikolayevich?

[Moiseyev] Not that long ago Minister of Science of the Russian Federation Boris Saltykov granted your newspaper an interview. He appraised the situation with reserved optimism. My attitude toward the problem is different. I am a "reserved pessimist." Now I will explain why.

Your question is not posed very correctly. It presumes clear answers. Either "it will sink" or "it will not sink." But life is more complex. A third answer, which is not suggested by the form of the question, is incorporated in it.

Prior to so-called perestroika only two countries of the world—the USSR and the United States—could afford such a luxury as to have science over its entire spectrum. In our country, a former superpower, we dealt with science in all its directions. We invested easy money in it and, in general, like the Americans, were none the worse off. Enough a policy works for the future—the scientific

would exist, it is necessary to conduct a scientific offensive along a very broad front.

Now, following the collapse of the Union, in the situation of the most acute money and currency shortage we can no longer afford this. Before us are the ruins of a scientific empire. It is beyond the power of Russia of today to preserve science of the "broad spectrum." When the country is no longer a viable economic and political organism, a most trivial, including most difficult, of tasks faces its people—to survive. But it is possible to do this only by having transformed the organism into a viable one. And this is given economic and political ties, which have been utterly destroyed (or are being destroyed), and the most obsolete production equipment! Of course, the task is a difficult one.

However, my pessimism, I remind you, is limited. I am convinced that the crisis of the birth of the new society will intensify even more, that is, for a while it will become even worse for all of us, but a fatal outcome all the same is unlikely. An organism, having gone through all diseases, will be formed. It is then (and this may happen in five years, in 10 years, in 20 years—it is hard to look ahead) that society will also need science.

[Dubrovskiy] But where is one to get it? The ship will sink. Will the building of science have to be built up all over again?

[Moiseyev] When the Titanic sank, the passengers and crew first saved what was most valuable. During this troubled era we must also preserve what is most valuable.

A question that inevitably arises: How is one to do this? How is one to work out a strategy of scientific survival?

First of all it is necessary to decide what is most valuable for the future. I believe that it is people. Those who are capable of thinking in nontrivial ways. Potential leaders, not capable craftsmen.

I remember the postwar scientific boom. It became possible first of all because the state was able to retain promising scientists and did not let them get shot down on the fronts. By my military specialty I was an aviator, thus, I should have gotten into an aviation regiment. But they sent me, a more or less capable student, to the Academy imeni Zhukovskiy. The technical student elite of Moscow State University studied there. It did not get into the trenches. And as a result, when in the 1950s I went to the West, at first to Munich, to the Siemens firm, and then to Paris, to the no less well-known Bull-Honeywell, I saw that there the computer equipment was not at all superior to what there was at the Computer Center of the Academy of Sciences, while in the skills of scientists we even surpassed them. Precisely the same Moscow State University students, who were not killed

### The Strategy of Conversion

Our Computer Center became famous in the 1950s and 1960s. At that time about 100 excellent mathematicians worked on the staff of the Computer Center. Now we have about ninefold more mathematicians, but there are just as many fold fewer interesting jobs. But they all the same exist, just as there exist excellent "explorers"—that is what I call the people who are capable of engaging in basic development. However, the productivity of the present "explorers" is low. How come? All of them, you know, sit at the Computer Center until late in the evening, often on Saturdays and Sundays, but are working not for "high" science, but for a "rich uncle." Practically all of them are involved with various small enterprises and joint ventures and are working on their orders, while using equipment that belongs to the RAS.

[Dubrovskiy] And do you want to throw stones at them?

[Moiseyev] By no means! I understand: It is necessary to live. A senior scientific associate earns here less than 3,000 rubles [R] a month. Now they are in a whirl....

It is necessary for them to stop "being in a whirl." It is necessary to pay them so much that they could live in a fitting manner on one wage.

[Dubrovskiy] It is easy to say. It is harder to find the money.

[Moiseyev] This is not hard. But no revolutions are needed. One must not promulgate edicts regarding the academy: reduce the staffs by 20 percent! Reduce them by 30 percent! One must not make people nervous with various quotas! A commission, which is made up of the most authoritative scientists of an institute plus the scientific authorities, who understand these problems, but work at another related academic institution, is entirely capable of distinguishing the promising nucleus of an institute. It is entirely possible to place the people from the "nucleus" on a high state budget salary. In this way we will retain them. Using your and my terminology, "we will lay them up." Until better times. And in such a way that these scientists could survive the worst times without particular problems.

It is necessary to give others a chance. There are a large number of jobs, with which not just "lucid minds" are entirely able to cope. I am talking about jobs, which are of applied importance and which can find a user. However, for the present there is neither equipment nor space for their fulfillment. But why not at the same Computer Center give this category of scientists the opportunity to work on the computer equipment of the RAS? Why not legalize what is already happening everywhere and to what the board of directors usually shuts its eyes? Let this be done for a rental fee, let these scientists be formed into special groups, with their own bookkeeping and wage, let this be done on terms, which are agreed on

hand—we will introduce the minimum rules, while we will let the people themselves decide the rest....

In other words, I propose at every scientific institution, where basic, "exploratory" research is being conducted, to do the same thing that at one time occurred at the Institute of Mechanics. They shut it and immediately opened the Institute of Problems of Mechanism, with a staff that was many fold smaller. Let some deal for decent money with problems which will be needed in the future (an example is the group of scientists of the Computer Center, which worked on the study of the biosphere by means of its global model; their work came in handy when designing the model of "nuclear winter") let others—with the help of the institute—obtain the opportunity to feed themselves.

[Dubrovskiy] I fear that the "conservation" in this way of the scientific gene pool is an impracticable thing. Scouts of prominent western firms, which are prepared to offer a scientist who interests them not the state budget R12,000-14,000 a month, but just as much in dollars, are scouring the country....

[Moiseyev] I thought about this problem and compared—and came to the conclusion that the capacity of the western scientific market is smaller than the number of promising researchers we have. In the 1980s everything was simple—the famous Gelfand seminar at that time moved to Princeton almost to a man. But now—I will not give the name of this prominent scientist, but this is a doctor of sciences, the former head of a department of the Institute of Earth Physics—he has been working in the United States on month-long contracts for a few years and, in spite of his scientific influence and a large number of publications, cannot find a permanent job.

Leave they will. But far from everyone will leave. And many will return. I have been in the West many times. And I say with all responsibility: The reverse side of the big money there is the dreadful competition in the scientific world of the West plus the fact that a scientist has to engage in self-advertisement all the time. And although in the West there are heavenly corners for quiet, unhurried scientific work (for example, in Berkeley), more often one encounters a race for a result, the fraying of nerves due to the fact that every day they can cancel your contract. And this is not the most pleasant thing.

[Dubrovskiy] Have it your way. We will retain the majority of "lucid minds." But the future of Russian science all the same will remain problematic. Even our best higher educational institution, Moscow State University is far from Oxford and, by the admission of many scientists, more reliable middling people and fewer

### Teachers Will Have To Crowd Together

[Moiseyev] You are right. If we do not succeed in reducing the gap between basic science and instruction, all our efforts on the "conservation" of personnel will come to nothing.

Look at what is happening. Higher educational institutions in our country ceased long ago to be scientific centers. And if at Moscow State University, for example, basic work is performed from time to time, this is an exception, not a rule. Because higher educational institutions have been flooded with teachers. While it is beyond the power of a teacher to train a future researcher. A person similar to him should train him. It is important for the teacher to show the student the independent logic of the discipline, which he teaches, he is strapped to the framework of his subject. While for the researcher the main thing is to stimulate the use of his science in broader scientific generalizations.

[Dubrovskiy] Do you want to say that teachers are not needed at higher educational institutions?

[Moiseyev] Good God, no! It is not only an impossible, but also a dangerous task to make a researcher out of any student. It is necessary simply to let the researcher into the higher educational institution. But not to do this wholesale, not to organize another campaign, as they like very much to do in our country. Science needs both workers and thinkers. To identify the abilities of the student and to prepare him for the role in science, which he is capable of performing, that is the task of the higher educational institution. To each student his own. But if we follow all the time the words of Goethe "we were born for something higher," the graduate of a higher educational institution of average abilities will turn out to be not simply an instructor of the tekhnikum or a higher educational institution, but an instructor with the most profound psychological trauma, which he will not heal in his entire life.

[Dubrovskiy] Earlier, under Soviet power, scientists dealt with science, while the state provided them with the conditions for this. Now, having proclaimed the idea of a market, the state has washed its hands of it and has drawn aside, having left it to scientists to save themselves in case of a shipwreck. The rescue of drowning scientists, the leadership has proclaimed, is the drowning scientists' own job. Are both science and higher educational institutions capable in this situation of managing without outside help and of organizing "self-conservation"?

[Moiseyev] What does our state for the present not understand? With the development of productive forces the role of civilian society becomes more and more important. While the state is its most important institution, under the democratic control of which social processes should occur.

customary to advocate, is only a special case of the global market. However, this market for all its universality has one major shortcoming—the market is blind. It does not know how to take prospects into account and to work for the future. Therefore, under the conditions of the market there should be structures which perform these most important functions. Under Soviet power the state governed society. This, of course, is improper. It should merely establish bans, foreseeing disruptions and preventing them. For example, morals appeared at the dawn of human society by trial and error. The precept "Do not kill!" acquired popularity when it turned out that one must not kill an intelligent, but weak man in the fight for a female, for this weakest man knows how to light a fire. Thus the system of taboos originated. So let us introduce in this system the present level of collective intellect!

Now in the area of the organization of the survival of science we need a mass experiment. It is necessary to allow scientists themselves to seek means of solving problems. And then the organization of this experiment, the support of the most viable forms and promising directions, as well as the elaboration of a set of bans, which would proceed from an orientation toward the future of the country, would become the function of the state. And, of course, the state by virtue of its resources is capable of minimizing the consequences of the crisis.

[Dubrovskiy] Thus, science of Russia should sink into a certain anabiosis until better times. And, when the difficult years have passed, owing to this anabiosis science of Russia "will rouse itself from sleep" and on the debris will write the names of the people who took care of science during the years of crisis. Is that so?

[Moiseyev] Roughly. However, do not forget that "individual anabiosis" can be less successful than "group anabiosis." Here is what I mean. CEMA marked the collapse of international cooperation in Eastern Europe—speaking about cooperation, we made a secret of all and everything, and as a result created a self-sufficient economy and self-sufficient science. Both are a harmful luxury, science, at any rate, suffered because of this. Today we have a unique chance to establish intelligent cooperation within the former USSR. Did we not know how to achieve cooperation in politics and economics? Then let us cooperate in the scientific sphere! It is much more difficult to survive on one's own!

#### **Russian Academy of Sciences President Osipov Defends Record**

937A0047A Moscow *POISK* in Russian No 43 (181), 23-29 Oct 92 pp 1, 3

[Interview with President of the Russian Academy of Sciences Academician Yuriy Osipov, by Yelizaveta Ponarina, under the rubric "A Topical Interview": place and

[Text] Journalists come of the powers that be with various complaints of readers. There are always enough real resentments, simple backbiting, conjectures, and confusion, but discontent of a different type was heard in the letter of Yanina Petrenko from Nizhny Novgorod. "Do our academy men really not understand that it is necessary to fight for the future of science?" she writes. "Or do they consider the mission after the establishment of the Russian Academy of Sciences to be fulfilled? The academy will quietly vanish without the attention of society to it. Why is the president of the Academy of Sciences keeping silent about this? Previous ones continually showed up on the television screen: They were solemnly opening or establishing something, while the current one is 'as quiet as a miserable day.' It is clear that now it is bad for everyone, and the intellectual ought not to yell about his needs more loudly than everyone, but he has been appointed to look after not himself, but the entire Russian Academy of Sciences!"

Having heard these lines, President of the RAS [Russian Academy of Sciences] Yuriy Osipov smiled sadly:

[Osipov] I do not think that "showing up on the television screen" in our times, which are difficult for the entire country, when we have so many poor and destitute people, is a worthy means of solving the problems of the Academy of Sciences. Of course, there should be statements both on television and in the press and other statements before the audience at large. And there have been—both in the national mass media and in the mass media of many leading foreign countries. There were also statements of other members of the Academy of Sciences. And everywhere there was talk about the most serious condition, in which basic science found itself, about the catastrophic impoverishment of scientific associates, and about the decline of the prestige of science and knowledge in Russia. The truism that without strong basic science a country cannot aspire to the role of a great power, it will turn into a third-rate country, was recalled. There was also talk about the fact that the Russian Academy of Sciences is national property, which it took our predecessors nearly three centuries to establish and which is an essential part of world culture, world civilization. And if this property is destroyed, many, many decades will be needed in order to restore it (if it is at all possible to do this!).

At times we have to "fight" for science in the offices of various kinds of not very skilled bureaucrats, in whose hands even decisions, which are made at the top level, often are "ruined." There, where the representatives of culture, teaching, and health care also "fight." In short, where the entire intelligentsia, which found itself for the most part vulnerable and unprotected in the occurring whirlpool of events, is "fighting" for survival.

[Ponarina] Nevertheless, you have already been "in

inspired by directives of the government, and what was inspired by the will of circumstances?

[Osipov] You are asking a difficult question. Does it make sense to arrange what was done on shelves?

All our work—of the presidium of the Academy of Sciences and many members of the academy—is aimed in this emergency situation at not allowing the academy to fall to pieces and at getting by without destructive losses. This is the main result today.

And for the time being we have succeeded in maintaining equilibrium. The hard everyday, at times inefficient efforts of many of our associates lie behind this. But their overall resultant made it possible to settle a number of fundamental questions.

You surely see: All around there is an orgy of property disputes, but they took practically nothing from the academy. Although there were earnest attempts to take away the hotels, the apartment houses and scientific buildings under construction, our hospitals, polyclinics, sanatoriums, and vacation homes, and much more. Here we are “resisting” by means of the well-known edict of the president of 11 November 1991.

It is very important that all the land, on which the academy is situated, was transferred to it for permanent, practically free use. For we have experimental farms, preserves, botanical gardens, and simply the land, on which our buildings and structures stand. It is frightening to imagine what would start, if the local authorities were to begin to take away the land or to demand payment in full for it.

We also succeeded in settling a number of other questions that are vitally important for the academy.

We have signed a number of important agreements on cooperation with our foreign colleagues in the United States, England, France, Italy, Germany, and other countries, at the basis of which are new forms of cooperation, which are advantageous for us and envisage the financial support of individual projects, scientists, and collectives. These agreements are already yielding specific results. The main thing in them is the form of cooperation, which enables our scientists to work in their homeland, at any rate not to leave it for a long time.

We expect much from the joint meeting of the government of Moscow and the presidium of the academy, which is now being prepared. Moscow is one of the largest world centers of science. And we hope that the government of Moscow will solve a number of our vital problems, which are connected with the leasing of premises and the charge for heat, water, and electricity. The academy on its part can give assistance in the solution of a number of scientific problems which are of interest to the city.

should carry out at the academy “the reappraisal of values” and draw the corresponding conclusions, which are aimed at the preservation of all the best that we have and at the elimination of the ballast. This difficult work is now being performed. Finally, our efforts should also be aimed at the adaptation of basic academic science to present conditions. But this adaptation should have nothing in common with the attempts to fit our science to western standards. Yes, the historically established form of the organization of basic science in Russia is not irreproachable, there are flaws in it. But it also has a number of significant merits. After all, our academic science has given the world the greatest achievements, of which our homeland is proud and which made Russia a great scientific power. And any attempts to destroy the academy at the least are immoral.

[Ponarina] And do you not regard the intention to establish state science centers as an attempt to create a structure which will completely reduce to naught the priority of the RAS?

[Osipov] I have expressed my attitude toward the idea of state science centers in various audiences. It—the idea—is a rather good one, if one correctly selects the base for the center. For example, the Central Aerohydrodynamics Institute—an outstanding institute, the contribution of which to the development of aviation and the science and technologies, which are connected with it, are invaluable—can, say, be it. But due to the perturbations of recent years (the elimination, in particular, of the Ministry of the Aviation Industry) the Central Aerohydrodynamics Institute was broken away from the life support structure, from contacts with related organizations. It is more logical to bring them together in one group, and subject to the tasks posed by the country to determine state support. Then the collective of scientists, who are capable of doing unique work, would be preserved.

But then the inclusion among such centers of institutions of the Academy of Sciences seems very debatable to me. I am opposed to this, moreover, not as a feudal lord, who is protecting the boundaries of his possessions, but as president of the Academy of Sciences of Russia. The Academy of Sciences is not simply the sum of individual institutes, this is something more: a community of scientists, who have grown accustomed not to restrict the depth of research by the utilitarian nature of the ultimate goal and who conduct research in practically all the most important directions of modern science, a community, which is the guardian of many of the best domestic scientific traditions and is united by the spirit of academic science.

It makes sense to establish the centers, about which you are speaking, for example, on the basis of such outstanding collectives as the Central Aerohydrodynamics Institute or the Kurchatov Institute. Even in enormous

Ministry of Science, the Higher School, and Technical Policy. Are they all to be approved? But this is absurd. It is necessary to establish centers, though not en masse, but individually, clearly visualizing the goal of establishment and out of whom the center is being made.

To me, incidentally, there seems more realistic—I have more than once spoken about this—a different means of strengthening basic science: the establishment of scientific educational centers. Why, for example, should Moscow State University not become a base educational center for the RAS? Why not open the doors of the laboratories of the RAS to students who long to go into science? It is necessary to take them on the staff and to pay them at least a small wage, if only they would get stuck on, would get accustomed to, and would be filled with the special spirit of science. But universities, in turn, should not turn their back on the secondary school and establish colleges and gymnasiums for their faculties. But for this one must not on any account destroy and take away the past. Integration and permeation are needed, not vivisection and prosthesis. The only trouble is that even where you encounter understanding, there are no funds for the realization of these intentions.

[Ponarina] But everything has come full circle: from the mountain tops to the abysses of earth. However you hammer into the president of Russia the idea of the importance of science for the future of Russia, you will get nothing more than promises. An example of this is the edict, in which all kinds of benefits were promised.

[Osipov] I do not accept such claimed—either in form or in content.

Engaging in daily practical work, I will say once again with all responsibility that precisely the well-known edict of the president of Russia saved the academy from destruction and is enabling us to work, although under very difficult conditions, as throughout Russia. I agree that many provisions of the edict were not developed in government structures. But much has also been done.

And there is a practical result of my two recent meetings with B. Yeltsin. For example, the Ministry of Finance suddenly halted the financing of our regional centers in Bashkiriya and Tataria. The justification is that taxes are not being received by the budget of the country from these republics.

But if we realize that the RAS is the national property of Russia, how is it possible to halt its financing in response to the disobedience of local authorities? By such steps we will directly destroy the RAS, moreover, we will make it completely dependent on the local leadership. But "he who pays the piper calls the tune." It is a sin to forget this. Only a few farsighted people, who are concerned with science, are capable of "ordering" basic science. There are, I repeat, few of them.

with an understanding with the president a new edict on the support of the academy is now being prepared

[Ponarina] The example is an approving one. But it is clear to a simpleton: The money allocated to the RAS will now not suffice science for a decent life. You also rejected wholesale reduction with respect to the schedule of fixed allocations. What is left—to tug people abroad in close ranks, while preserving in the soul genuine homesickness?

[Osipov] Repeating myself, I will say that it is necessary to expand contacts with the foreign countries which are interested in scientific cooperation with us. And to seek such forms of cooperation, which would from a financial standpoint be advantageous to us and would enable our scientists to work in their homeland. In the near future we will sign new agreements, for example, with China, Korea, India, and Taiwan.

[Ponarina] To take advantage of contacts with distant foreign countries is a worthwhile idea, but is it not better to seek assets through privatization in the scientific and technical sphere?

[Osipov] At the RAS, I hope, there will not be such privatization. On no account. In documents, for example, it is recorded that no pilot enterprises, plants, and auxiliary services of the RAS will be transferred to private ownership.

[Ponarina] But it is also impossible to use them further only as secret proving grounds. Recall the wise precept: "What you hid was lost, what you gave up is yours." The pilot plants of the RAS, which, for example, have been sensibly leased out, can yield the same Academy of Sciences good revenue.

[Osipov] We are now seeking within the structure of the Academy of Sciences possibilities for commercial activity so that, while continuing to do their basic job, our people would be able to earn decent money. The same scientific instrument making, which is now creating enormous problems for us, can yield both revenue and, what is the main thing, instruments themselves for science. For this it is not mandatory to privatize plants and design bureaus, it is necessary to create the conditions and to organize work on a commercial basis. Such an approach disgusts many people, but, I believe, a commercial element should be present in the activity of the Academy of Sciences, so that we could earn money for the same basic science. And could derive revenue in the form of instruments, in the form of a larger wage or in the financing of foreign trips of scientists. There is nothing disgraceful in such commercialization of science. For example, even at Cambridge, at Trinity College, where Sir Michael, president of the Royal Society, is master, they earn very much money by means of the commercial structures of this educational institution.

[Ponarina] Will you proceed soon from the idea to actions?

[Osipov] This work is being performed. There are also results, which, unfortunately, at times are not very significant. At any moment we intend to establish a department for property at the RAS. We are seeking for the leading role in it a person from other structures, with different (not academic) thinking, so that he could analyze with the fresh eye of a businessman what the Academy of Sciences has and what profit it is possible to derive from these possessions, without changing the orientation of the organization.

### Top Science Officials Meet on Federal S&T Center Proposal

937A0033A Moscow RADIKAL in Russian No 37 (94), Oct 92 p 10

[Article by Marina Lapina under the rubric "At the Academies": "The Presidium of the Russian Academy of Sciences: It Cannot Keep Them Out, But Does Not Want To Let Them In"—first paragraph is RADIKAL introduction]

[Text] At the first meeting of the presidium of the Russian Academy of Sciences after summer vacation the problem of establishing in Russia state science centers became the main topic of discussion. If only the impressive composition of the discussion participants testified that this question is of fundamental importance for all science. The tradition of holding academic Tuesdays in a rather narrow circle was broken this time. The presence at the meeting of Minister of Science B. Saltykov spoke for itself: Since appointment to the post of vice premier he for all his attachment to science has not been able to devote proper attention to it.

The academy generals also invited to the meeting V. Shorin, chairman of the corresponding committee of the Supreme Soviet of the Russian Federation, and staff members of the Ministry of Science, the Higher School, and Technical Policy, the State Committee for the Management of State Property, and other departments, which are dealing directly with the problem, which arose comparatively recently, but is already acquiring the outlines of specific documents and has practical consequences.

Among them is the appearance of the drafts of the edict of the president "On State Science Centers of the Russian Federation" and the appendix to the edict "The Basic Principles of the Activity of State Science Centers." They were drawn up by a special commission, which was set up at the beginning of July of this year

In the majority of responses, which have already been received by the Ministry of Science, the Higher School, and Technical Policy, the idea of establishing state science centers is recognized not only as advisable, but also as necessary for the preservation of all the best that is still left in Russian science. The drafts of the documents obviously testify to the intention to implement with respect to science the announced policy of the determination of priorities, which B. Saltykov also confirmed at the presidium meeting.

During the preparation of the documents the approaches to the solution of the problem changed. It is possible to judge this if only from the change of the attributes which accompanied the word Center: at first "national," then "federal," finally "state." Different versions of the approach to the choice of scientific institutions that are candidates for the change of status were also examined. Initially even a version of a manning table of such candidates was considered, but they rejected it rather quickly.

As a result the prepared drafts of the documents contain at least two fundamental features. First, they will make the decision on the establishment of a center in each specific case individually, separately. Second, on an exclusively voluntary basis—the institutes themselves are free to choose whether they are to be centers

The guaranteed allocation to the centers of budget assets "for the development of the scientific base and the social sphere and of currency for the acquisition of instruments, equipment, and foreign literature and for the backing of international agreements on scientific and technical cooperation, the making available to state science centers of parcels of land for free use, a system of guarantees and benefits for personnel, having in mind the increase of their social protection," are envisaged. In other words, it is a matter of priority state support, which the minister also confirmed in his statement

At the same time several restrictions and steps of state control will be in effect. In particular, in draft of the Statute it is recorded: State science centers are noncommercial organizations, their scientific activity has a special purpose and is carried out in accordance with approved programs.

The initiators of the idea and its developers hardly expected that they would encounter in case of the evaluation of the proposed documents the complete unanimity of all the interested parties. The presidium meeting confirmed this, having shown the main opponents only in the person of representatives of the academy establishment (although several of them are among the active initiators of the idea, first of all Academicians L. Keldysh and Zh. Alferov), but also in

institutes. In this case the enormous academic monolith can collapse, having lost its points of support

The opinion of the presidium, formally a tentative one, but actually a final one, was expressed in the information report, which had been prepared by the start of the first fall meeting and had been distributed to its participants (not everyone). The responses to the documents of 14 of the 18 departments of the RAS, as well as of the institute of machine science, which, I will stipulate at once, unambiguously stated its opinion "in favor," were generalized in it. The History Department, as was stated in the report, did not make remarks on the documents, which it is also possible to regard as a favorable reaction, while the four largest departments (two physics and two chemistry) so far have not expressed their point of view at all.

The general objections of the RAS with regard to the establishment of state science centers on the basis of academic institutes were formulated in essence on the basis of 13 negative responses. The basic reasons for these objections reduce to the following: "the clear specification of the role of the RAS in the process of restructuring domestic science and of the place of the academy in the proposed system of the organization of scientific research is lacking..." "the draft of the Edict is at variance with the Edict of the president of the Russian Federation on the Russian Academy of Sciences as 'a Russian self-administered organization,' since it is objectively aimed at the increase of the centralization and state regulation of scientific activity..." (in this connection B. Saltykov correctly noted that the academy is self-administered, but receives money from the state budget), "the proposed priority financing of state science centers and a number of the guarantees and benefits for its personnel will inevitably lead to the disintegration of the structure of the RAS..."

The main speaker, Academician Keldysh—himself a member of the presidium of the RAS, academician secretary of the General Physics and Astronomy Department, the largest in the academy, director of the famous Physics Institute of the Academy of Sciences, and simultaneously the supervisor of a working group which became a part of the commission—formulated a more concise reason for the differences between the drafters of the documents and the opponents. During behind-the-scenes discussions he repeatedly became convinced that his position "to a significant extent differed from the position of the leadership of the academy." In his words, "the point of view of the academy reduced to the fact that centers within the Academy of Sciences are possible only in case of complete control on its part, material supply is also left to it. My point of view was somewhat different: The academy should carry out only the scientific supervision of the activity of the center."

but dying. According to my calculations, so that the academy could work normally at the proper level, trillions of rubles are needed. Our budget should be increased, at the least, by a factor of 10. We cannot count on this today. Moreover, if our economy evolves in a civilized direction, the change of the forms of the organization of science will inevitably be required. In particular, the disproportions between the number of scientists working in basic science and the number of applied scientists will have to be corrected."

No one, of course, was going to dispute this, but the idea of unity and universal equality gained the upper hand. Judging from the questions which came down upon the main speaker and particularly upon the minister ("Who will carry out material and technical supply and who determines the amounts?", "Thus, will the centers no longer be subordinate to the RAS?"), no doubts remained in the choice of priorities in the eyes of the majority of presidium members.

The unity of opinions, which the academy generals displayed, is understandable, but all the same slight bewilderment arises. First of all due to the fact that several zealous critics before the presidium meeting and after it expressed extreme interest in the implementation of the idea on the basis of the institutes and institutions, at which they personally work. But how, for example, is it possible to explain the negative reaction of President of the Academy of Medical Sciences Academician V. Pokrovskiy, if in the official response of the Academy of Medical Sciences, which was received by the Ministry of Science, the Higher School, and Technical Policy, not one remark was expressed?

The statement of V. Shorin, chairman of the committee for science of the Supreme Soviet of the Russian Federation, who shared his impressions after "cursory acquaintance with the documents," also left no less a strange impression. The respected member of parliament and, what is noteworthy, a member of the commission did not explain why it was cursory. The cursory impressions, however, were unequivocally negative and with respect to the institutes of the RAS were expressed unequivocally: "The academy itself is a state science center." I heard absolutely the same phrase word for word a month and a half before the presidium from Chief Scientific Secretary of the RAS Academician I. Makarov, with whom I had a talk precisely on this theme

Almost from the very start of the discussion B. Saltykov, which anticipated, by his own admission, such a reaction, tried to reassure somewhat the impassioned academicians, who had not been so excited for a long time. He promised that with respect to the academy no strong-

This explanation did not reassure the presidium members. As a result of a four-hour debate there even arose the idea to record in the decision of the presidium that the appearance of any draft laws or edicts on state science centers at present is generally inadvisable. But, as a result, at the next meeting they adopted all the same a more mild and reasonable resolution, which allows the establishment of state science centers in principle and even does not exclude such a possibility for the academy. Although, in my opinion, if today some institute, including an academic institute, were to express the great desire and persistence to change its status and were to have grounds for this, no limitations for the successful settlement of this question exist. The presidium will also not be able to implement the idea "to keep out."

As to sectorial institutes, regardless of the time of the appearance of the documents and their wording the question most likely has been settled in principle.

A precedent was set with the appearance of the Russian Kurchatovskiy Institute Science Center. At a meeting of the presidium of the RAS B. Saltykov informed the academicians that a decision had been made on giving the status of centers to another two scientific institutions—the Physics and Power Engineering Institute in Obninsk and the Institute of Atomic Reactors in Dmitrovgrad, which had themselves actively advocated this.

The impression is created that with respect to academic institutions a different tactical course will simply be found. What kind and when is a question of time. But the fact that in the system of academic institutes the idea of the choice of priorities will have to be implemented, does not cause anyone doubts. Academician Yu. Osipyan, the senior member of the presidium, proposed "to sacrifice innocence" and to implement this idea himself. Rather, it is possible to reduce the essence of his proposal to the following wording: both to observe innocence and to acquire capital. As the next presidium meeting showed, no one knows for the present the means of solving this dilemma

### **Priority Directions for Ukrainian Science Research Approved**

937A0024A Kiev URYADOVYY KURYER  
in Ukrainian 9 Oct 92 p 11

[Interview by URYADOVYY KURYER reporter Leonid Samsonenko with the DKNT Ukrayiny [State Committee of Ukraine for Problems of Science and Technology] Chairman Sergiy Mykhaylovych Ryabchenko under the "Topical Interview" rubric: "Will We Be 'Technological Nation?'; first paragraph is URYADOVYY KURYER introduction]

is the subject of our reporter's conversation with the DKNT Ukrayiny Chairman S.M. Ryabchenko.

- In accordance with the Law of Ukraine "On Fundamentals of State Policy in the Sphere of Science and S&T Activities" the government examined the substantiation of priority directions of the development of science and technology and presented them for parliament approval. This is what constituted a formal occasion for the examination; however, undoubtedly it has a deeper meaning. Why? After all, even the Soviet Union, which considered itself a superpower, had exhausted itself while trying to develop all science, economics etc. directions simultaneously. In the modern world such approach is impossible. Even the most powerful country, the United States, cannot lead in all science directions. The recent approach of the former Soviet Union - to develop everything - was an approach based on building a certain autonomous closed system with an iron curtain, which had to provide all necessities for its citizens, albeit at a low level. Undoubtedly we had not been a part of the system of international cooperation wherein each country or company makes at the highest possible level what it does best, while buying everything else from those who, again, are the best at doing that.

The establishment of the state independence of Ukraine has stressed this need even more, because what was too much even for a former superpower is too much for us. Ukraine cannot compete with equal success in all directions of human activity. Therefore we must define what we must be engaged into in order to become an integral part of the international process of division of labor. If, for instance, Japan or a developed European country is decades ahead of us in a certain field, do we have to be catching up with them for the rest of our lives? We should work on those problems for which we have the most talent, resources etc. So the Law emphasizes that the development of science and technology in Ukraine, as far as their priority directions are concerned, is supported by the State. This does not mean that other directions will not be developed. Unfortunately, identification of priority directions is a fairly difficult task for Ukraine, taking into account the current status of the development of science and national economy. Unfortunately, this is being hindered by the industry branch-oriented approach to the development of both science and national economy, which has not been uprooted even today. Even now representatives of certain industries are asking: "How come we are 'non-priority' ones?" Therefore it is very difficult to choose what exactly is promising in an industry and among industries. Analyzing the experience of Western countries we can see that it is around defined priorities that they concentrate their scientific research, manufacturing of new materials etc. Besides, these priorities most of the time "are pulling up" the entire national economy, because each industry has elements that ensure integrated development. They

as one of our most acute and burning problems. This is a self-preservation tactics, as opposed to a tactics of offense. Unfortunately, under the current crisis conditions we cannot get rid of the self-preservation tactics completely. But if we want to make our way in life, we should at the same time orient ourselves toward an offensive tactics. So based on this the State Committee on Problems of Science and Technology proposed a certain combination of the two approaches. It is based on the principle of problem-gear orientation of priority directions. For instance, one approach is environmental protection. It first of all stipulates directing the capacity of all industries toward solving this problem. Accordingly the problem of human health care must also be solved. Another direction, which has been prompted both by the priority importance of providing food to the population and by economic aspects, is manufacturing, processing and preservation of food products. In this area the most effort must be aimed at the last two factors. Because if only one-fourth of a potato harvest reaches a pot, we would be able to sow 50 percent less of it if we could improve the quality of preserving it.

**- In my opinion, the slow building of Ukraine's statehood is also hindered by the absence of a scientific approach.....**

- Yes, I am in complete agreement. At present this is but the most important problem. Because we suffer the greatest losses exactly due to imperfect organization, due to the status of our society when we have lost to a certain extent the ability to control the national economy, and have not yet built appropriate market relations. This is why we have done our best to put in action as early as this year directions such as scientific foundations of the national and cultural revival of Ukraine, building of its statehood and organization of the economic, science and social spheres. Acknowledgment of the priority character of these directions means an important change in management regulations and their drawing nearer to regulations generally accepted in developed countries. Scientific solution of new problems in the judicial, economic and sociopolitical spheres of public life and problems of society organization and its economics, science etc., as well as building a modern model of the development of Ukraine as an independent state must play a prominent role.

**It is no secret that the young Ukrainian state is currently under an acute threat of an energy crisis. Has this problem been identified as a separate research direction? -** An

ecologically clean power industry, resource-saving technologies and new materials are among the most important priorities of the development of science and technology in Ukraine. It is not for me to tell you what an ecologically harmful and dangerous power industry our state has now, but without it the state will find itself at the brink of destruction. Therefore at present one must

a bitter reality - Ukraine virtually has only two types of fuel, coal and uranium. It is well known that due to the lack of hard currency oil and gas deliveries are being curtailed ever more. Under these conditions it is necessary to switch the national economy as soon as possible to the most rational and ecology-friendly utilization of alternative fuel in an ecological manner and develop non-traditional directions of energy generation. At the same time it is necessary to save energy as much as possible. Not by word but by deed one must be implementing thrifty utilization of natural resources and fight squandering them as raw materials. In particular, where else can one see the use of drinking water for technical purposes?

At present the Americans formally divide the mankind into three categories - "technological nations", "supporting nations" and "other nations". In the first group they include countries that possess the newest technologies. The second group includes countries that live at the expense of mining their natural resources. And the third group includes, according to their conception, countries that have neither, hence accordingly their role in the world division of labor. If we really want to become a developed country, then our task now is to reach the level of "technological nations". I shall note that Ukraine has all the necessary potential for this. For instance, it is one of the five countries in the world that can build aircraft carriers or grow monocrystalline silicon of the necessary diameter for microelectronics. Our state also has a developed educational system and talented people. It is exactly through manufacturing and by way of a technological breakthrough and increased productivity that we will be able to overcome the current crisis. Attempts to come out of it by improving principles of distribution are vain.

**- Sergiyu Mykhaylovychu, certainly time does not stand still. I understand that it is difficult for you as a scientist to speak of specific results, but still - what is the estimated timetable for the implementation of the priority directions?**

- According to the Law "On the S&T Policy of Ukraine" priority directions are determined by the Supreme Soviet for a certain period of time, and the government must inform annually on the development of S&T potential. I think that if the parliament approves the chosen priorities, the bulk of them will be in effect for the next two to three years. For instance, at present Ukraine is the world's largest grower of sugar beets, but the beet processing technology is but the worst. Of course, it is inexpedient to develop the technology on our own - it makes sense to buy available equipment. Calculations demonstrate that return on investment in retooling of the sugar processing industry will be one year. But global measures such as public health care or environmental

To know what one can count on our Committee has conducted kind of re-registration of the scientific potential of Ukraine. At the beginning of the year a competition for state S&T programs had been announced, and incidentally it had been announced via your newspaper. Having analyzed scientists' suggestions we determined specific ways for concentrating our effort. It is also important that we must implement these programs by means of new in principle science-intensive technologies. Of course, here we will use the opportunity to take advantage of the ever broadening technology exchange with the entire world, which is inherent to any developed society. For instance, at present we are putting a real meaning into S&T cooperation by concluding agreements with Italy, South Korea, Germany, France, India, China, Poland etc.

### Conversion of Military S&T Establishment Discussed

937A0030A *Moscow DELOVOY MIR in Russian*  
3 Oct 92 p 6

[Interview with Major General Aleksandr Ivanovich Vladimirov, president of the Independent Political Science Association of Military Experts, member of the Nongovernmental Council for Cooperation, and military adviser of the parliament of Russia, by DELOVOY MIR commentator Antonina Galayeva, under the rubric "Political Journalism"; place and date not given: "A Slap in the Face of Civilization"—first five paragraphs are DELOVOY MIR introduction]

[Excerpts] In one of the recent issues of BYULLETEN INOSTRANNOY NAUCHNO-TEKHNICHESKOY INFORMATSII I read: "In 1990 D. Bromley, adviser to the U.S. President for science, drew up a list of 10 priority scientific problems and addressed to Congress the proposal to appropriate over the next five years more than \$3 billion for the development of high-speed computers which are necessary for the accomplishment of these tasks. The central place in the program of D. Bromley was assigned to the development by 1996 of a computer with a performance of 1 trillion floating point operations a second."

I read and turn white with envy: What astronomical sums America is handing out to one separate research program, as though it is specializing only in it. And it has there thousands of them! And all of them have by no means been deprived of their share for the sake of one. The state takes care of all, attracting private capital for help, when it is not managing by itself.

And what do we have? Even during the days of prosperity our science was on a half-starvation ration, while now it has been abandoned entirely to the mercy of fate.

science, which struck the imagination (there was, God be my witness, a choice—I did not take nonsense for praise)—who, if not I, knows in what awfully dire straits it is! Knows and suffers severely from this.

Who will help to clarify the situation, in which the country has found itself?

I appealed for a response to Major General Aleksandr Vladimirov, a man who is completely innocent (if only owing to his young age) and is worried about the fate of the country, a military intellectual, who is unemployed, is without an apartment and a wage, is independent and prepared to shoulder the entire weight of the burden of reviving unfortunate Russia, and who is president of the Independent Political Science Association of Military Experts, a member of the Nongovernmental Council for Cooperation, and military adviser of the parliament of Russia. [passage omitted]

### The World Fund of Knowledge and the Azimuths of the Fighting

[Galayeva] To what would I like, Aleksandr Ivanovich, to turn our conversation? Here is what. A huge scientific and technical potential is concentrated precisely in the military-industrial complex. In no way would you call backward our science and technology, which worked for defense. While with respect to many positions they were also far ahead—it is no secret. And now everything has fallen apart. This reminds me of the well-known situation with genetics. At that time the entire enlightened world became anxious. Prominent American geneticist Charles Davenport wrote in an open letter to the U.S. Secretary of State: The Soviet Union is deriving much from the discoveries of scientists, its debt to civilization is to make a contribution to the world fund of knowledge, but if it refuses to pay this debt, the rest of the world will not allow it to benefit from the further progress of knowledge. It is possible to assert, C. Davenport concluded, that to hinder the work of scientists is equivalent not only to national suicide, but also to a slap in the face of civilization. The letter was written on 17 December 1936. It is impossible to make any comparison of the present situation in science with those times. Unique scientific minds have been left without work. Some people are flowing across the cordon, but some people are staying! What will happen to them? How is one to turn now the huge hulk of the military-industrial complex toward science, social progress, and the development of civilization? Could foreign investors take part here?

[Vladimirov] We, indeed, possess immense intellectual and technological resources, which have not been claimed either by us or even by them. The Americans are trying to get some of our technologies. The Japanese are

achievements for the most part closed on themselves. Even technologies which we could sell very profitably. Or first patent, then sell. Or simply exchange. But no—they are in such a state that it is impossible to use them. And it will be that way until we understand precisely the point of the law on the secret, and first of all what a secret is. In my opinion, before turning toward progress, it is necessary to be emancipated. And it is necessary to keep secret only know-how and planning. Everything else is not a secret.

[Galayeva] Especially as when we recently willingly classified and carefully stamped in the Main Administration for Safeguarding State Secrets in the Press every comma in materials about science, the foreign press published to the utmost our plants, secret files.... Often even in advance of events. That is, there is no secret as such.

[Vladimirov] A secret of course, all the same does exist. And nevertheless it is time to put an end to this unheard of violent regime. We should demilitarize the economy, society, consciousness, education—everything. There is no one for us to make war on.

[Galayeva] Are you certain of this?

[Vladimirov] Absolutely. No one intends to attack us. Because it is impossible to conquer Russia.

[Galayeva] Is it that impossible?

[Vladimirov] It is. No way. Ask History.

[Galayeva] Pardon me, but there are going on among the people judgments and gossip that the chaos and disintegration in the country were orchestrated from there, from abroad. More precisely, they were even not orchestrated, but were completely carried out. According to some satanic scenario. Is that really not so?

[Vladimirov] The usual search for an enemy, in which we engaged tirelessly for 75 years. The powers that be, hammered into the philistine the image of an enemy starting in childhood, so that he would be patient, would not rise, and would not see what is around. Unfortunately, our current mentality is like that. During the discussion at the General Staff Academy of the draft of the military doctrine of Russia it was amazing to hear the nostalgic speeches of high-ranking elderly officers, who long for our former military might, influence in the world, and so forth. Incidentally, it is possible to understand them. But it is already absurd to base doctrine on a mobilization mentality, on fighting along all azimuths, on readiness for general war. The times are different. Our military doctrine should even be called a doctrine of the coordination of the efforts of not only Russia and the countries of the CIS, but also the entire world community in the sphere of security.

turn the vector of the military-industrial complex toward a peaceful, fruitful meeting of foreign investors in mutual interests....

[Vladimirov] Oh no, it is necessary to turn its immense industrial potential first of all to meet the interests of our own people. We are capable of doing this. But it is necessary to do this quickly! In two to three years. Otherwise we will end up with worse chaos than the chaos in which we are living. There is no choice. And there is no going back. It is necessary to make investments not in global programs, but in specific enterprises. For this it is necessary that they have the right to cooperate with foreigners. This is the first thing. The second thing: Enterprises should be privatized and shares in them should be sold. The third thing: Capital investments should be guaranteed by the technological potential of the military-industrial complex, by the mobilized reserves and resources, which have been accumulated and here and there have not yet been consumed. And there are all kinds of leasing deals, buying and selling.... If we again begin to develop programs for the entire military-industrial complex, for the entire CIS or all of Russia, we will sink before we begin their implementation. It is necessary to develop the economic independence of industry of the regions after the pattern of the states in the United States, toward which our government is heading slowly. Apparently, fearing separatist sentiments in the Urals, Siberia, the Far East. However, no American state, while having incredible rights on its territory, has thought of separating from the country. Inasmuch as it is linked in a unified system of financial, economic, and cultural interrelations with the other states. It is necessary to carry out conversion mainly on the scale of regions—for its economic needs, for the needs of its people, our Russians. Then the inferiority complex from centralization, at last, will be eliminated.

[Galayeva] And what all the same about the defense of the country? Also among regional quarters?

[Vladimirov] You are right, there are things which it is impossible not to centralize. Of course, they should be formed into a separate structure and be developed under serious state control. For example, the production of new equipment. But only on a level that is necessary and sufficient for defense. But in order to do this, it is necessary to know exactly what kind of army we want to have and for what purposes. A modern military doctrine, without which everything else is impossible, is necessary. Without it we will not be able to make a special-purpose order to science and industry. The trouble is that no one except the Ministry of Defense is dealing with the development of doctrine. That is, the army is again trying to reform itself. As if this is not a national matter. The Supreme Soviet is not participating in this in any way. It will discuss the doctrine which the General Staff

[Galayeva] Aleksandr Ivanovich, which of the programs you know of getting out of the economic impasse do you regard as the most worthy one?

[Vladimirov] You are probably familiar with it. This is the program of Moisey Gelman, which was published in several issues of your newspaper and was proposed for the competition of the Germes concern. If I am not mistaken, the concluding report was in the issue of...

[Galayeva] ...of 1 August of this year. And it is entitled "To the Market With Money and Goods, But Without Shock and Tips."

### Summary

[Galayeva] Let us summarize our discussion.

[Vladimirov] In my opinion, it is vitally necessary for the president, the Supreme Soviet, and the government to realize that the main national priority in their activity is the survival of democracy in Russia. But for this it is necessary to make efficient political decisions and to do, at last, the following:

*to establish efficient structures of power,*

*to legalize the state system of Russia as a democratic federative state, which is based on the primacy of the rights of the individual and on a territorial federative system, with the adoption of the Constitution of Russia,*

*to pass laws on land and property,*

*to develop a mechanism of civilian control of the armed forces of the country,*

*to consolidate the democratic forces on the basis not of great upheavals, but of great labor in the advance toward civilization,*

*to find people with systems thinking, who are capable of continuing the work on the path of reforms, in case the Gaydar Government is forced to resign (our class of businessmen, which is being born in throes, should understand that it will survive, if it begins to invest its capital not only in goods and production, but also in these new, promising people),*

*to grant the maximum independence to the regions,*

*to stabilize the financial system of the country....*

[Galayeva] They will want to find you, Aleksandr Ivanovich.

[Vladimirov] Is there nothing easier? My telephone numbers are: 205-44-45 and 205-83-40.

### Mechanism Still Lacking for Privatization in Science

937A0037A Moscow RADIKAL in Russian No 38 (95).

[Text] In the State Program of Privatization for 1992 there is one single point which concerns institutions of science. It states: It is possible to privatize higher and secondary specialized educational institutions, scientific research, design, design and surveying, and other facilities, enterprises and institutions of the Russian Academy of Sciences, sectorial academies, the Ministry of Health, the Ministry of Science, the Higher School, and Technical Policy, the Ministry of Education, and the Ministry of Ecology and Natural Resources, and facilities of state science centers only in accordance with a decision of Goskomimushchestvo [the State Committee for the Management of State Property] of Russia.

Of course, the share of scientific institutions in the total volume of facilities being privatized for the present is negligible—it comes to a mere handful. But precedents exist, and their existence is already reason for unrest. For our privatization Mecca thus far does not have an official position, a precise program of actions, and, as it turned out, even complete information, which is concentrated in the hands of one person, about what is being done now in the scientific and technical sphere in this direction, particularly about the state of affairs locally.

Due to the lack of precise criteria and guides to action regional bodies, it appears, simply do not know how to act when applications for privatization come to them from the collectives of scientific institutions. In some regions they accept applications, in others they do not. But both as a result nod in the direction of Goskomimushchestvo. But in the committee thus far there is neither a main administration nor even a staff member, who would be officially charged to deal only with questions of science.

We will hope that in the near future such a subdivision will finally appear.

The situation, of course, is not confined to the solution of organizational problems. In the committee, it appears, thus far there are no clarity and no unity of opinions with regard to the substantive aspect of the matter. About what unity in general is it possible to speak, if such an enormous stratum as sectorial science has disappeared from the field of view of the authors of the privatization program and our legislators? A rather resolute and very controversial point of view is now being expressed precisely with respect to sectorial institutes, which at one time they simply forgot. It reduces, in particular, to the fact that these scientific institutions essentially differ little from industrial enterprises, and, therefore, it is necessary to privatize them accordingly. There are also supporters of this position in Goskomimushchestvo. But inasmuch as in matters of privatization it has actually been given complete freedom, such trends cannot but cause uneasiness.

The Ministry of Science, the Higher School, and Tech-

The discussion of this concept at a meeting of the Collegium of the Ministry of Science, the Higher School, and Technical Policy was confirmation of the fact that there is actually reason for uneasiness. Representatives of Goskomimushchestvo also took part in it. The resolute attitude of several of them prompted the authors of the program, who had not aspired at all to the exclusiveness of the proposed approaches, to draw up the draft of another document, in which proposals, which were based on the approaches set forth in the program, were formulated in concentrated and specific form.

It is a matter of an explanatory letter, which was intended for "the ministries and departments of the Russian Federation, the governments of the republics within the Russian Federation, organs of regional government, enterprises, institutions, and organizations." The authors proposed an individualized approach to the solution of the problem of the privatization of scientific institutions. In particular, the types of institutions, which are not subject to privatization at all or can be privatized only in accordance with a joint decision of Goskomimushchestvo and the Ministry of Science, the Higher School, and Technical Policy—with allowance for the opinion of sectorial ministries and departments—were listed. In all there were five such gradations.

This document appeared at the right moment (and it was planned that both ministers—B. Saltykov and A. Chubays—would sign it), it could have definitely clarified the formed situation and systematized the process, which had already begun and for the present was being poorly managed. But the ministers never signed the explanatory letter which was drawn up about two months ago. B. Saltykov, who personally delivered the letter to A. Chubays, probably never succeeded in achieving unanimity with his government colleague. Thus far a clear response in this regard has not followed from the leadership of Goskomimushchestvo. In Goskomimushchestvo they seem to be pretending that there was no such document at all. Seeing that the letter bypassed the "outgoing-incoming" stage and formally it was not included in the duties of the committee to give a response to it.

It is possible only to guess the reasons for such a reaction, rather, the reasons for its complete absence. Perhaps, Goskomimushchestvo wants as before to run the show itself and in all cases to reserve the right to have the last say, having eliminated right away the pretensions of the Ministry of Science, the Higher School, and Technical Policy to any "jointly." Whatever these reasons are, it remains only to regret that they are again pushing science to the side of state interests.

#### **Russian Federation Draft Law on Russian Academy of Sciences**

937A0042A Moscow *RADIKAL* in Russian No 40 (97).

[Text] This Law defines the legal status of the Russian Academy of Sciences and regulates the relations of the RAS [Russian Academy of Sciences] with state bodies, the principles of the use of state resources for the conducting of basic scientific research, and the organizational bases of the cooperation of the RAS with other scientific institutions of the Russian Federation and other states.

#### **ARTICLE 1. THE RUSSIAN ACADEMY OF SCIENCES IS THE HIGHEST SCIENTIFIC INSTITUTION OF THE COUNTRY**

The Russian Academy of Sciences as the highest scientific institution of Russia is an all-Russian self-administered organization which is financed from the state budget. The RAS unites full members (academicians) and corresponding members, who are elected in accordance with established procedure, and other scientific associates and specialists of institutions of the Academy.

#### **ARTICLE 2. THE LEGAL STATUS OF THE RUSSIAN ACADEMY OF SCIENCES**

The Russian Academy of Sciences functions on the basis of this law, other legislative acts of the Russian Federation, and its own Charter. It has the rights of a legal person and owns separate belongings, financial assets, and centralized funds, which are necessary for the conducting of scientific, scientific organizational, and economic activity.

#### **ARTICLE 3. THE BASIC TASKS OF THE RUSSIAN ACADEMY OF SCIENCES**

The basic tasks of the Russian Academy of Sciences are:

the conducting of basic research in the area of the natural sciences, the technical sciences, the humanities, and the social sciences, which contributes to the spiritual, economic, and social development of society and the individual;

the preparation of forecasts of the development of basic science and the basic directions of scientific and technical policy in Russia and abroad;

the formation jointly with the appropriate state bodies of scientific and technical policy, the formulation of state programs and individual decisions on questions of scientific and technical progress, participation in the formulation and scientific substantiation of the strategy of the social, economic, and spiritual development of Russia and the republics, krais, and oblasts, which are a part of it;

participation in the examination of all-Russian, regional, and interregional scientific, national economic, and social projects and laws;

the coordination of scientific research in the area of the basic sciences;

the carrying out of the integration of academic, VUZ, and sectorial science;

the training of scientific personnel of the highest skill;

the implementation of international scientific cooperation in the area of the basic sciences.

#### **ARTICLE 4. THE PRINCIPLES OF THE ACTIVITY OF THE RUSSIAN ACADEMY OF SCIENCES**

In its activity the Russian Academy of Sciences is guided by the following principles:

the humanization of the spiritual life of society, the development of the scientific and cultural educational traditions of Russia;

the guarantee of the freedom of scientific creativity and the competition of scientific schools and directions;

democracy in the organization of science, the activity of scientific institutions, and their management.

The Russian Academy of Sciences, enjoying the support of the state, ensures the social protection of the scientist and the protection of his legal rights and interests.

#### **ARTICLE 5. THE STRUCTURE OF THE RUSSIAN ACADEMY OF SCIENCES**

Scientific research institutes, observatories, experimental stations and bases, botanical gardens, libraries, archives, museums, publishing houses, and other scientific technological design, production, and auxiliary organizations are part of the RAS.

The RAS also has organizations and institutions of the social sphere, which provide the necessary working, living, and recreational conditions for scientific workers and other staff members of the RAS, including housing and health care and cultural institutions.

The structure of the RAS is based on the scientific sectorial principle and territorial principles, is approved by the governing bodies of the RAS, and is secured by the Charter and other documents of the RAS.

The RAS settles all questions of internal life independently, on the basis of its Charter.

#### **ARTICLE 6. THE INTERRELATIONS OF THE RUSSIAN ACADEMY OF SCIENCES WITH STATE BODIES**

The state creates the material and technical conditions

The Russian Academy of Sciences with the observance of copyright norms and other norms of prevailing legislation turns over to the state the results of basic scientific research.

The presidium of the RAS annually submits to the Supreme Soviet of the Russian Federation, the President of the Russian Federation, and the government of Russia a report on the basic results of the scientific research activity of the RAS and the use of budget assets during the past year.

#### **ARTICLE 7. THE FINANCING OF THE RUSSIAN ACADEMY OF SCIENCES**

The financial assets of the Russian Academy of Sciences are formed by means of:

assets of the state budget of the Russian Federation, the amount of which is specified by the Supreme Soviet of the Russian Federation;

special-purpose allocations for the fulfillment of state and sectorial scientific and scientific and technical programs;

receipts from the economic and foreign economic activity of the RAS and the enterprises and organizations, which are a part of it;

charitable contributions and donations of enterprises, organizations, funds, and private individuals, including foreign ones;

other sources which are envisaged by prevailing legislation.

#### **ARTICLE 8. THE PROPERTY OF THE RUSSIAN ACADEMY OF SCIENCES**

Buildings, structures, means of transportation, scientific instruments, equipment, and other belongings, which were transferred to the RAS by the state, as well as other physical assets and financial resources, which were acquired by it from sources envisaged by the law, are the property of the RAS. The belongings of the RAS are not taxed.

The Russian Academy of Sciences has the right to acquire, sell, or transfer for domestic and foreign legal and natural persons, to change and to lease, to make available free of charge for temporary use the buildings, structures, equipment, means of transportation, tools, raw materials, and other physical assets, which belong to it on the basis of the right of ownership. Housing, as well as the belongings, which are necessary for the support of the work of health care and cultural institutions and other enterprises, organizations, and institutions of the social sphere, are the property of the RAS with the status of the property of a public organization.

financial assets or other belongings, which are its property, is not allowed. The relations with regard to the belongings of the RAS, which are on the territory of other states, are regulated by legislation of the Russian Federation and the corresponding states.

#### ARTICLE 9. BELONGINGS WHICH ARE IN THE USE OF THE RUSSIAN ACADEMY OF SCIENCES

The belongings, which are the federal property of Russia, the property of a republic within Russia, or municipal property, can be transferred for the accomplishment of statutory tasks to the economic jurisdiction and day-to-day management of the Russian Academy of Sciences, can be leased to it, or can be transferred to it on other terms, which are envisaged by the corresponding contract, with the giving to the RAS of the rights of the body which manages these belongings.

The confiscation of the belongings, which are mentioned in this article, their privatization, or their leasing by the lessor to other legal persons or natural persons is allowed only with the consent of the Russian Academy of Sciences.

#### ARTICLE 10. NATIONAL PROPERTY

The most valuable objects of the RAS, which are of statewide importance, by a decision of the Supreme Soviet of the Russian Federation or the President of the Russian Federation can be declared national property.

#### ARTICLE 11. THE USE PLOTS OF LAND

The plots of land, which have been allotted to scientific research institutes, botanical gardens, preserves, experimental stations, proving grounds, other institutions of the RAS, and facilities of health care and the social sphere, are in the indefinite (permanent) use of the RAS, are not liable to alienation, and are not taxed.

#### ARTICLE 12. ENTREPRENEURIAL ACTIVITY

The Russian Academy of Sciences for the accomplishment of its basic tasks, which are envisaged by the Charter, can conduct entrepreneurial activity and can dispose of the revenues from it and the belongings, which were acquired by means of these revenues.

#### ARTICLE 13. TAX AND CUSTOMS PRIVILEGES

The assets (including currency assets), which are given to the RAS by enterprises and other legal, as well as natural persons (including foreign) for the conducting of basic and applied scientific research and experimental design work, are not assessed taxes.

The profit (in ruble and currency terms), which is derived by scientific research institutions and other

In case of the leasing of buildings and premises from enterprises, organizations, and institutions, which are financed from the budget, the RAS pays rent in the amount of the actual expenditures of the lessor on the maintenance of these buildings and premises.

Institutions, enterprises, and organizations of the RAS are exempt from customs fees and duties with respect to scientific equipment, materials, and other belongings, which are purchased abroad for scientific research, as well as their own scientific and technical and other products, which are exported abroad.

The government of the Russian Federation establishes preferential fares for air, water, and rail passage for associates and graduate students of the RAS, who are being sent abroad for scientific purposes, as well as for foreign scientists who are invited by the RAS for joint scientific work.

#### Zakharov Commentary on Law on Russian Academy of Sciences

937A0042B Moscow *RADIKAL* in Russian No 40 (97), Oct 92 p 11

[Article by Candidate of Physical Mathematical Sciences Aleksey Zakharov, first deputy chairman of the Trade Union of Workers of the Russian Academy of Sciences, under the rubric "Documents": "Reflections on the Draft of the Law on the Russian Academy of Sciences"]

[Text] The working group for the drawing up of the draft of the law on the Russian Academy of Sciences, which was set up by the Committee of the Supreme Soviet for Science and Education, has begun its activity. In addition to the committee members (Academician of the RAS [Russian Academy of Sciences] V.P. Shorin, Yu.A. Ryzhov, V.A. Grachev, V.V. Lunin) people's deputies of the Russian Federation, who work or worked at the academy (A.Ye. Shabad, V.L. Sheynis), representatives of the presidium of the RAS (V.I. Medvedev, S.V. Nemchinov), representatives of the Ministry of Science, the Higher School, and Technical Policy and the State Committee for the Management of State Property (A.V. Shlykov and Yu.O. Lebedev) and of the recently established trade union of workers of the RAS (A.K. Zakharov and V.G. Khlebodarov), and experts from the Institute of State and Law of the RAS (V.K. Andreyev and T.Ye. Abova) are taking part in the work of the group.

At the first meeting the working group discussed the organizational aspects of its activity, as well as the question of whether a special law on the academy is needed at all. The draft of the law, which was submitted to the committee by the Presidium of the RAS after repeated internal discussion, was distributed to the meeting participants. The representatives of the Presidium of the RAS are especially insisting on the quickest

It is not clear whether the RAS is a public or state organization or an association of institutes and enterprises.

In the conception of the majority of taxpayers the Russian Academy of Sciences is an assembly of high-class scientists who have been made wise by life experience. People rarely realize that in reality the RAS is one of the few preserved departments, under the management of which there are several hundred institutes and a powerful infrastructure (housing, hospitals and polyclinics, vacation homes, sanatoriums, libraries, houses of scientists, and so on). So that the essence of the matter is not that simple and it consists in the following: Who will own and manage this vast property and in accordance with what rules? Here what rights will the people, who today actually make science: doctors and candidates of sciences and engineers, who work at institutes of the academy, but do not have academic titles, have?

The draft proposed by the Presidium of the RAS should be examined from precisely this point of view. We will recall that technically it is possible to solve the problem in two ways: either to cite an already existing law, for example, the Law on Property, the Law on Public Organizations, and so on, or, while insisting on the exclusiveness and uniqueness of the Russian Academy of Sciences, to give it on such a basis a special status. In this case the draft law should answer all the questions which similar laws, which concern state, public, and private organizations, answer: How is the organization formed and eliminated, from where is property gotten, who manages the organization and on what basis, and so on.

### The Necessity of a Law on the RAS

At present the question not only of the status of the RAS, but also of the status of its property, the conditions of the use of plots of land, and tax benefits, and other most important questions, without the settlement of which the institutes of the RAS find themselves under the most difficult conditions, have not been settled. The situation is being aggravated by the reduction of state budget financing and is leading to the disintegration of the system of scientific research institutes of the RAS, which threatens the Russian Federation with the loss of its intellectual potential. However, the question of tax benefits cannot be settled within this law (according to a decision of the Supreme Soviet of the Russian Federation all changes of the tax system in Russia are legalized by special laws); at the same time the questions of the status of the RAS and its property can be settled significantly more quickly by standard acts of a lower level.

Considering that another 43 academies have been registered in the country, one should expect numerous reproaches with the establishment of privileged organi-

The very best version is the creation of a law on the RAS as a part (section) within a law on science or on scientific and technical policy of the Russian Federation.

### General Remarks on the Draft Law

The draft does not define the legal status of the RAS. It is not clear whether the RAS is a state or public organization, an enterprise, or their voluntary association. There are features of organizations of all types: state budget financing (a state enterprise), a fixed number of natural persons (a public organization), the presence of enterprises which are engaged in commercial activity.

The draft contains numerous references to the Charter of the RAS and even to individual Statutes, but it is not clear who adopts this Charter and who amends it. It is also not specified who are members of the RAS—natural or legal persons or both. It is unclear what requirements the Charter of the RAS should satisfy.

It is not specified how natural persons and organizations become a part of the RAS and withdraw from it. The procedure of the reorganization and elimination of the RAS is not specified, the methods of the division of property in these cases are not specified. It is not even clear among whom the property will be divided in case of the elimination of the RAS.

The draft does not answer clearly the question, to whom the rights to the use of the results of scientific activity will belong: to the authors, to the members of the RAS, who are natural persons, to the legal persons who belong to the RAS, to the RAS itself as a legal person, or to the state.

The procedure of the formation of the highest body of the RAS is not specified.

### Remarks on Individual Articles of the Draft Law

**Article 1.** It is not specified who establishes the procedure of the election of academicians and corresponding members and what specialists the RAS unites. (A lyric digression: Semen Semenovich has been working for more than 20 years at the Institute of Oceanology, where the author of these lines works. Without a shade of irony he is a remarkable specialist, I would say, a virtuoso of his job. He does not drink, is obliging, and is responsive. But he does not drop in at the meetings of the scientific council, inasmuch as there are no water pipes in our conference hall. Here we guess—does this specialist belong to the system of the RAS or is he simply looking after the faucets?)

**Article 2.** In the article on the legal status of the RAS there is nothing about the legal status of the RAS except for a reference to the Charter. Thus, the Charter of the

**Articles 4-5.** If the RAS "ensures the social protection of the scientist" (Article 4), if the RAS "also has organizations and institutions of the social sphere," one should assume that the RAS is a trade union. If the RAS ensures the protection of the legal rights and interests of the scientist, one should assume that the RAS is a law enforcement body.

**Article 5.** It is not specified which bodies of the RAS are the governing ones, whether the RAS has other bodies and what their functions are, who adopts and amends the Charter of the RAS, who registers it, and what questions of the life of the RAS are internal ones.

**Article 6.** Which state bodies create the material and technical conditions for the RAS, to which state bodies does the RAS transfer the results of basic research, and what does the state do with these results? I would also like to understand to whom are the rights to the use of the results left in this case?

**Article 8.** Let us examine an example which completely conforms to Articles 8, 12, and 13 of the draft law. Some natural person transfers as a charitable contribution to the RAS a large batch of a commodity—oil, gold, diamonds, weapons (Article 7). A commercial enterprise of the RAS (Article 12) exports this commodity abroad without a duty (paragraph 4—"other products") and sells it there to a foreign natural person (Article 8, paragraph 2). The enterprise invests the assets, which were received for the duty-free transport, in the construction of a facility of the social sphere—for example, a villa (dispensary) on the shore of the Black Sea (which, according to Article 13, is not taxed), after which it transfers this facility free of charge to a domestic natural person (Article 8), for example, a member of the governing bodies of the RAS.

**Article 9.** It is obvious that any republic can transfer to any organization, including the Russian Academy of Sciences, its property for use. For this, incidentally, an article of the law is not required. But why can the republic take it back only with the consent of the RAS?

**Article 10.** Obviously, the Supreme Soviet of the Russian Federation can declare some facilities national property. And for this an article is also not need. But what follows from this? What peculiarities does the use of this property have?

**Article 11.** It remains unclear, How is it possible in circumvention of local authorities to settle the question of special conditions of the use of lands? Does this not require amendments to the land code?

**Article 12.** Why are the basic tasks of the RAS stipulated by the Charter of the RAS, and not by Article 3 of the law? Apparently, there may also be other tasks in the

## Conclusion

The draft law cannot be taken as a basis, since it not only has been studied entirely inadequately, but also does not contain a clear concept of the structure and activity of the RAS.

The draft law suggests sad thoughts. I return to Article 5, where the governing bodies of the RAS are spoken about. Do there exist there other bodies—for example, thinking ones? What will such a draft do the academy more of—harm or good?

## From the Editorial Board

Many, if not all, of the remarks of Aleksey Zakharov seem legitimate to us. However, neither we nor he are lawyers.

But we are free to ask any questions and to give answers to them, taking common sense into account. An entirely different matter is the working group for the drawing up of the draft of the law. Such a body is simply obliged to make an unbiased examination of the submitted draft law, it is simply obliged to have within it skilled experts. It also has them—from such an authoritative organization as the Institute of State and Law. But, according to our information, the draft of the law on the RAS, which is now being considered, came from there.

If this is the case, the experts are not at all experts, but only defenders of the draft law.

## RAS Reorganization Plan Leaves Much in Doubt

937A0043A Moscow *RADIKAL* in Russian No 39 (96), Oct 92 p 9

[Article by Vladimir Pokrovskiy: "Decree Two Hundred Fifty"]

[Text] "The Academy of Sciences decided to commit suicide." "The academy's self-preservation instinct, however strange, was triggered. It, although forced to, all the same agreed to radical reforms—though not the ones, to which it should have agreed earlier."

These two quotations are from the statements of various scientists with regard to recently issued Decree No. 250 of the RAS [Russian Academy of Sciences], in which, in particular, it is stated:

"The departments and the presidiums of the regional centers of the RAS:

—by 1 November 1992 are to make decisions on the reorganization of each of the scientific institutions that are a part of them, based on the amount of financing allotted to them for the fourth quarter, meaning the reduction of particularly priority scientific directions, scientific schools, and subdivisions, which have the

—are to submit proposals to the presidium of the RAS on the elimination of scientific institutions, the independent existence of which is not due to necessity, with the transfer of individual subdivisions of these institutions, which have the greatest scientific potential, and the transfer of the most highly skilled scientists and specialists to scientific institutions which are similar in specialization.”

The decree is rather voluminous, contains many different recommendations, and, probably, the scientific associates of the academy are already well acquainted with it, inasmuch as it was distributed among all academic institutions. Nevertheless it raises a large number of questions. For example, the institutes are ordered to register without fail in the presidium of the RAS all contracts “on the leasing of premises and other property, as well as contracts for the conducting of scientific research and development with foreign firms and organizations and other foreign economic operations.” Registration, to all appearances, will not be prohibitive (if someone detects in the last words an internal contradiction, remember where we have been living so far), inasmuch as 20 percent of the assets obtained for the lease will now be deducted for special accounts of the presidium of the RAS “for the additional support of basic research, the settlement of questions of the social protection of scientists and specialists of the academy, and the development of international scientific cooperation.”

It is possible to look at this in one of two ways. It is possible to say that everything is correct: When everyone is trying to save himself, let the people who are able recall at a difficult moment the people who are not able and throw into the common pot 20 percent of their straw. But it is also possible to say the following: We know, they say, all these presidiums with their funds and additional supports, will much of the 20 percent be left for institutes, if the presidium collects it? Inasmuch as the situation is actually extremely critical and the only thing to do is to declare a “water cease-fire,” we find it difficult to determine which of these statements—the naive one or the skeptical one—is more correct today. Just as it is difficult to say which of the quotations cited at the beginning is closer to the heart. Most likely both are equally probable. And it is not ruled out that both, however paradoxical this is, mean the same thing.

There will still be time to talk in earnest about this decree, we will not for the time being comment on its text. We will also try to refrain from predictions and general statements—the academy is again at “the point of bifurcation,” and, therefore, it is foolish to proclaim reasonable things: History can choose any, including an absurd, scenario. We will simply try to tell what is being done at various institutions of the RAS, in its departments, and so forth—then it is still possible to hope to see if only a part of the picture.

and, therefore, there are no serious grounds to extend a certain optimism of the article to a level common for the entire academy.

### **The Institute of History of Natural Science and Technology**

No department of the RAS can decide anything with regard to this institute—it is directly subordinate to the presidium. Therefore, it is possible to say with a fair degree of certainty that it will most likely not be eliminated. However, the situation there is a complicated one.

“The atmosphere is a very nervous one,” says Doctor of Philosophical Sciences Boris Kozlov, temporary acting director of the IYeT [Institute of History of Natural Science and Technology], “inasmuch as we have gotten into severe time trouble. The final stage of the year and a half long election of the director of the institute is now coming to an end—on 10 November there will be a secret ballot in this regard at the meeting of the presidium of the RAS. It is necessary to decide something quickly, we have a large number of specific proposals, but it is impossible to approve them until the new director is elected. It is even impossible to discuss them in earnest, inasmuch as this can affect in an unpredictable way the course of the election campaign. (Kozlov is one of the candidates for director; he regards his proposed directorship under these conditions as suicidal, but necessary for the institute and, it appears, is linking with this all but the question of the existence of the IYeT—V.P.)

“The main consideration is that a scientific program should be made the basis for the restructuring of institutes. Everything should originate from the programs of the institute and their expert evaluation, their goals and their importance in the structure of the general problems of culture, in the structure of basic research, and in the structure of the RAS should be evaluated. Attempts to solve at the economic and financial level the problems of basic research seem completely unsound to me.

“And let them not say that there is no money at the academy. According to the ‘government-RAS-academy trade union’ trilateral wage rate agreement, the financing for the fourth quarter remains at the 1991 level with allowance for indexing. Although there is just enough of it for basic research of the academy, it should suffice. However, this money is now being stolen for a large number of newly formed structures, for the most different insurance funds...here no money will be enough!”

From the conversation with Boris Kozlov it became clear that he does not rule out the possibility of the elimination of the institute, although he does not earnestly believe in it.

### **The Institute of Molecular Genetics**

Here in general it is very calm. “Our institute is rela-

contractual research, we are participating in five state scientific and technical programs, and the academy budget constitutes for us only 30 percent of the total financing. Moreover, we anticipated long ago such a turn of events and began in good time to prepare for it. We are participating very actively in international cooperation, several of our laboratories are now receiving grants from the U.S. National Science Foundation and the National Institutes of Health. These are joint grants—they are given to an American laboratory, which is cooperating with us, and it transfers a portion of the grant to us in the form of equipment and reagents. We have been professing for a long time at the institute a policy of reasonable 'saving on everything.' For example, we set up here service groups. There are two or three people in each of them, they are well equipped, they receive all the reagents. This saves our subdivisions the trouble of duplicating the physical part of their research—after all, for the most part they work with the same set of equipment and preparations. The service groups are cost accounting. They make available to the subdivisions either the necessary services for a fee or the opportunity to conduct experiments on their equipment. It turned out that the service groups not only yield a saving on expenditures, but also provide ready money—their capacity exceeds the needs of the institute, and they fill orders on the side."

In spite of such well-being, the IMG decided to agree to a substantial reduction, though for the present, it is true, no one knows what kind. Yevgeniy Sverdlov is not taking the position of the institutes, which feel entirely confident and decided not to agree to a reduction. The reduction in his understanding is also a preventive measure. Today, perhaps, it is not required, but tomorrow more surprises may follow from the academy, tomorrow programs, on which the well-being of many is based, may collapse. And it is necessary to prepare today for this tomorrow.

The main saving, which the IMG expects to obtain from the reduction, is by no means on the freed wages. The reduction will mean the freeing of space, on which for good money it is possible to put commercial structures, for example, banks. And this will be money that makes it possible if not to live, then at least to survive at a level which exceeds the physiological minimum.

### The Institute of Philosophy

Its director, Academician Vyacheslav Stepin, at first did not even understand the question, when I asked him what fate awaits the Institute of Philosophy in connection with the 250th decree. In his opinion, there is nothing extraordinary in this decree.

"Much of what it is recommended there to do, we have

"We cut the department of scientific communism, we transformed the department of Marxist philosophy into one laboratory. In January we cut 57 people, having, of course, found jobs for all of them.

"But with regard to further reduction.... Soon we will have certification, then we will see. I consider many provisions of this decree to be entirely reasonable and am trying as far as possible to fulfill them, although, I think, one must not make a sharp reduction—this would cut to the quick, there should be some limit.

"What I do not understand is the policies of the presidium. With one hand they order directors to cut associates, while with the other they sign with trade unions such an agreement, in accordance with which I cannot fire even a loafer. And then it is necessary, after all, to find the cut people a job somehow, today such a task is beyond the power of directors."

Like the director of the ILYeT, Academician Stepin does not view seriously the possibility of the elimination of his institute ("this would be incredible stupidity"), although he does not rule it out. He as if looks with suspicion at the presidium and the powers that be—who knows what they will think up there, that they will begin to regard the defense complex as a priority complex, while they break up humanities higher educational institutions. It will happen to them.

"At one time Adolf Hitler," he says, "prohibited the conducting of research which would not yield an impact in six months, because the war was going on. As a result he was left without an atomic bomb.

"If we want to become an Upper Volta, then, of course, it is necessary to eliminate humanities institutes. This will undermine very greatly the culture of Russia—forces, which are incomparable to the forces of universities, are concentrated in the academy. As a result we will get an ignorant generation, which both will do without culture itself and will prohibit it for its children.

"This is a question not of institutes, this is a question of policy. If they begin to cut down institutes, the academy will not hold out."

### Discussion on Privatization of Science

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Oct 92 pp 9, 11

[Article by Igor Krylov, docent of the Institute of the Advanced Training of Information Workers, under the rubric "We Are Discussing the Concept": "How To Disperse the 'Privatization Fog' Around Science"]

[Text] "The Concept of the Privatization of Institutions

First, in it the crisis of the scientific and technical sphere is described objectively, without embellishment. Second, this is the first document, in which an attempt has been made to tie state privatization programs and the standard documents regulating them to the specific nature of scientific and technical institutions and organizations.

But, like any first attempt, the Concept, of course, raises more questions than it gives answers. For the present only timid signs of "the dispersing of the fog" of confusion and legislative uncertainties, with which any labor collective of a scientific research institute or design bureau, which has submitted an application for privatization, is faced, are visible.

First of all I tried carefully to find in the text of the Concept an answer to two, in my opinion, basic questions which arise in case of the privatization of any scientific institution. The first of them: How is one to appraise specifically in rubles and kopecks the scientific and technical potential of an organization, or what in recent times people have liked to call by a fashionable, but legally vague term—intellectual property?

The second question is, How is one to divide fairly among the members of the scientific collective subject to the real creative contribution of each person the "common pot" of the scientific potential of an organization?

In reality, it is possible to reduce the second question to the first one: How is one to appraise specifically in rubles and kopecks the intellectual property which was created by each member of the scientific collective, so that the fairness of the principles of appraisal would not raise objections and so that, as the Strugatskiy brothers wrote in *Piknik na obochine* (*Picnic on the Side of the Road*), "no one would go away offended"?

In general there is an attempt to answer the second of the posed questions in the Concept. But is such an answer capable of satisfying the members of a scientific collective?

Without trying to be evasive, specialists of the Ministry of Science, the Higher School, and Technical Policy propose to distinguish in any scientific organization that is being privatized "the scientific nucleus"—the associates who are the basic "creative force." No one has doubts, I think, that such a "nucleus" actually exists. From the works of such foreign theorists of knowledge as T. Kuhn, K. Popper, D. Price, E. Garfield, J. Bernal, and others it is well known that not more than 5-10 percent of the members of any scientific collective are actually capable of generating ideas of a high level. But how is one to distinguish this "scientific nucleus"?

In the opinion of the authors of the Concept, it is possible to do this very easily. I quote: "To avoid the creation of additional social conflicts in collectives membership in the 'scientific nucleus' should be determined

in an academic (scientific and technical) council." Precisely on this basis the Ministry of Science, the Higher School, and Technical Policy also proposes to give the members of the scientific collectives preferences in case of privatization—for example, the right to the purchase at face value of 5 percent of the shares in the charter fund of the scientific and technical enterprise that is being privatized (Section 5 of "The Concept....").

I do not know about you, but I, having read this, sensed the triumph of painfully familiar ideas, according to which membership in a specific rank of the party nomenclature automatically gives the right to a specific set of benefits, privileges, rations.... The satirical novel of Vladimir Voynovich, *Moskva 2042* (*Moscow 2042*), in which the needs of citizens of the Moscow Independent Communist Republic were divided into mandatory and increased needs, while the Supreme Pentagon determined the right to increased needs, comes to mind.

And these principles of nomenclatural distribution are substantiated by the fact that, in the opinion of the authors of the Concept, it is impossible to determine the actual creative contribution of an associate to the scientific potential of an organization, and attempts to do this will lead only to conflicts in labor collectives.

#### An Individual Approach Is Possible

I resolutely disagree with this and will try, as far as is possible within an article, to prove that objective appraisals of intellectual property—both of an organization and of a specific associate—are possible, although rather labor-consuming.

Under the conditions of the administrative command system a market of scientific and technical products was lacking, the actual market price of developments did not worry anyone. The laws of pricing on the market of technologies are so different from the principles of the formation of the prices for traditional products that they require special approaches and the drawing up of individual methods documents. A number of these documents were drawn up earlier and were used as a starting point. Others were drawn up with the participation of the authors of these lines, still others are in operation or at the stage of coordination with the State Committee for the Management of State Property of the Russian Federation.

The Procedural Recommendations on the Comprehensive Evaluation of the Effectiveness of Measures Aimed at the Acceleration of Scientific and Technical Progress (which were approved by Decree No. 60/52 of the USSR State Committee for Science and Technology and the USSR Academy of Sciences of 3 March 1988) were used as the basis of elaboration The Procedural Recommen-

Scientific and Technical Products and the Method of the Estimation of the Value of Objects of Industrial Property were drawn up of their basis (they were published in the reference manual *Izobretatel i predprinimatel* (Inventor and Entrepreneur), No 2; an appendix to the journal IZOBRETATEL I RATSIONALIZATOR, Moscow, 1992, 30,000 copies, 60 rubles).

And, finally, the Procedural Recommendations on the Estimation of the Personal Creative Contribution of an Associate to the Scientific and Technical Potential of an Organization That Is Being Privatized is at present at the stage of coordination with the State Committee for the Management of State Property of the Russian Federation. After necessary consultations this document will also be published in subsequent issues of the reference manual *Izobretatel i predprinimatel*.

#### Awards, Royalties—With Indexing

But privatization is going on at full swing. Hundreds and thousands of labor collectives are deciding the question of fair principles of the distribution of the property that is being privatized. One person for decades "wore holes in his pants" at work, another developed hundreds of inventions, with respect to which licenses were sold abroad and dollars, which today have become tremendously expensive, entered the treasury. Or, say, a scientist, who is recognized by the world scientific community and whose monographs have been translated into tens of languages—how does one appraise the intellectual property created by him?

In case of the evaluation of the contribution according to such purely formal indicators as the length of service, the wage, and membership in a specialized or scientific and technical council, a creative person will inevitably be deceived and deprived of his lawful share. That is precisely what is happening in the majority of cases during the privatization that is under way, when intellectual property is simply not taken into account. This is also not surprising—after all, "The Temporary Procedural Instructions on the Estimation of the Value of Objects of Privatization" only mention the fact that the rights to intellectual property when making an inventory should be reflected in the section "nonmaterial assets," but do not contain any specific rules of their appraisal.

Thus, from what principles do I propose to proceed when determining the personal creative contribution?

First, it is necessary to take into account the award for inventions, efficiency proposals, and industrial designs and the royalties for articles, textbooks, monographs, and so on, which have been paid to the author during the entire period of his work at the organization that is being privatized. It is unimportant that a plant used the invention of an author from a scientific research institute, while a publishing house or an editorial board paid the royalties—all the same, although modest indicators, these are market indicators of the appraisal of intellectual property.

But with allowance for the rate of inflation the amount, which was paid to me for an invention or an article 20 years ago, today is simply ridiculous, any author will object. And he will be absolutely correct. Precisely for this reason, in order to bring up to the modern level, to index with allowance for the rate of inflation the kopeck amounts of the award, which was paid at one time, I propose to use the coefficients that are applied when crediting pensions. That is, the amount of the award, which was paid each year, is multiplied by the coefficient that is used for this year when crediting a pension based on age.

Second, it is necessary to take into account the especially creative contribution of inventors, patent experts, and scientists in those instances, when their work received world recognition—it concluded with the sale of a license abroad or the publication of an article or monograph by a foreign journal or publishing house. I believe that with respect to license agreements, which are in effect at the moment of the appraisal of the property being privatized, the authors of inventions have the right to take into account the award, which was paid in hard currency by its conversion into rubles at the market rate. It is also necessary to approach in the same way the ruble appraisal of the royalties, which were paid to authors for the publication of articles and monographs abroad—it is well known that the All-Union Copyright Agency for decades fleeced the author, giving him only 20 percent of the royalties paid by a foreign publishing house.

One should also take into account the so-called 5-percent bonuses of the personnel of patent services, which were paid for the sale of licenses abroad. In short, inasmuch as there are comparatively few cases, when Russian inventors and scientists earned hard currency for the state budget, they deserve a special procedure of stimulation. Especially as it will also be easy to obtain documentary confirmations of the royalties paid to authors—they are in the archives of the corresponding organizations—the Administration for the Protection of the Rights of Inventors and the Centralized Payment of Awards of the USSR State Committee for Inventions and Discoveries, the All-Union Copyright Agency, and others.

But as to the consideration of the bonuses for the promotion of introduction, bonuses for new equipment and for the use of innovations from materials of scientific and technical information, and other similar types of the awarding of bonuses, I do not consider it necessary to take these payments into account. Too often managers approached such bonuses formally, apportioned their amount subject to the position and salary, gave incentives to "favorites" and passed over "undesirables," or simply made them out to everyone "in equal shares" on the occasion of the next May or October anniversary.

Having added up the award or royalties for all the years of work of the author and having indexed each year in terms of the pension coefficients, we will get a provisional sum which reflects his creative contribution to the

total scientific and technical potential of the organization. This sum (depending on the version of privatization, which has been chosen by the labor collective) can be paid with bonus stocks; with stocks, which are sold on preferential terms, by installment, and so on.

Of course, I understand that the proposed approach is labor-consuming and cannot take completely into account all the components of creative labor. A large number of complications will arise with the documentary confirmation of the paid amounts of the award and royalties. In some cases all of them will be noted on the back of the authorship certificate, in others you will not find anything. At the same time the commission for privatization, undoubtedly, will have the right to require of the author documentary confirmation in the form of a copy of the order, the pay sheet, the postal money order, and so on.

The proposed approach, no doubt, requires refinements and specifications, and I will be grateful to the readers for specific suggestions. But I think that no one will dispute the very need to take creative labor into account when privatizing state scientific research institutes and design bureaus. For in many respects owing precisely to this labor of millions of scientists and engineers we have something today to privatize.

### Controversy Over Changing Status of Academy Institutes Continues

927A0287A Moscow *RADIKAL* in Russian 30 (87),  
Aug 92 p 10

[Article by Marina Lapina: "Will Academic Institutes Become the Federal Scientific Centers of Russia?"]

[Text] In one of the previous issues of *RADIKAL* we began a discussion of the problem of creating a network of federal scientific centers in Russia based on the country's leading institutes. Academician Igor Makarov, chief scientific secretary of the Russian Academy of Sciences, expressed himself for the first time in our pages regarding the expediency of such transformations. His position, I recall, reduced to the fact that such an undertaking is not without some use, possibly, but it should not affect the academic institutions, since "the Academy of Sciences itself is a national scientific center." The tone and context of Igor Mikhaylovich's statements implied that for the academy this issue is essentially resolved and that its entire leadership adheres to precisely this highly debatable position.

Although the presidium has not discussed the issue, it is quite obvious that it is in fact so. In any case, as the academic secretary of the RAN Department of General Physics and Astronomy believes, the president and the first vice-president, director of the FIAN, Academician L. Keldysh, entirely share Makarov's position. In his opinion, this is fully explainable: The creation of federal scientific centers on the basis of academic institutions threatens the presidium with the merciless prospect of deprivation of its basic power function: the distribution

of finances. Obviously, for this reason and this reason alone, most inhabitants of the academic Olympus will support the president.

Meanwhile, until discussion of the problem by the presidium, which promises to be rather stormy, one can say with certainty that at least two members of the presidium are among the opponents: academicians L. Keldysh and Zh. Alferov. They set forth their viewpoint in a memo sent several months ago to the Ministry of Science, Higher Education, and Technical Policy of Russia. Judging by everything, this note has not gone unnoticed. The academicians think that 25-30 of the academic institutes merit the status of a Russian federal scientific center.

Moreover, there is already a precedent. True, it does not concern an academic, but a sectorial institute: Kurchatov. It has already been several months since B. Yeltsin signed the edict to change its status.

"Has this event affected your work or the work of the entire collective, and was this change necessary?"

I addressed this question to institute associate Valeriy Chuyanov, doctor of physical and mathematical sciences.

"The change happened at a time of severe ambiguity in the structure and system of nuclear science in the country. When the edict was signed, it was absolutely unclear what would happen to it. At the time, this decision put the institute beyond the framework of uncertainty. In practice, however, the change of status created a tremendous number of difficulties for us. Probably, specific for different subdivisions.

Everything depends on what kind of customers one subdivision or another has. If there is just one customer, like our subdivision, this metamorphosis means nothing, and it has had no effect at all on our work. (The subdivision is now called the Institute of Nuclear Fusion. Before, it was the Plasma Physics Department). We get 90 percent of the money from the Ministry of Nuclear Power Engineering through the thermonuclear program. For us, the situation has actually become worse. The ministry is looking askance: We have become 'alien' to it."

For subdivisions that have many customers, the change of status has offered more advantages. For us, something else was far more important: the receipt of our subdivision's independence within the framework of the institute, since the main management had seriously cleaned us out before."

### 'Futurist' Believes Changes, Reforms Leading to Better Science

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Aug 92 p 10

[Famous futurologist Igor Bestuzhov-Lada, academician of the RAEN and RAO, general director of the Institute

of Forecasting at the Russian Open University and prorektor of this university, cautiously predicts a budding revival of domestic science: "A Chance to Make "Good" Science, Instead of the Dying "Bad" Science"]

[Text] Rumors to the effect that things were supposedly better with our science before are greatly exaggerated. It all depends on how one interprets "good—better." Of course, for half a million people who independently call themselves "scientists," life in any scientific research institute was much better than behind a machine tool or a steering wheel, at a construction site, even in a shop, or even behind any other desk, even at a VUZ. True, they paid less money than could be stolen without punishment at other jobs. To make up for this, nowhere else were there "library days" three times a week, when you could go to the library, if you wanted—or to the store or movie theater. And nowhere else was it possible to report brilliantly every quarter, for years, often one's whole life, while doing absolutely nothing. However, after all, the results corresponded. Per capita a fourth of all the world's scientists have been concentrated on one sixth of the world's dry land. Yet in terms of effectiveness of scientific research, measured by various fully reliable methods, this fourth looks worse than other countries, where a tenth fewer specialists work in science. Does this mean that our MNS's and SNS's are ten times more stupid than foreign ones? No, it merely signifies that the small part who really "do science" were completely suppressed by the large part of the "quasi-scientific public" and fettered by the anachronistic, blatantly idiotic and profoundly flawed social organization of scientific labor.

One of the flaws is the pseudo-training of the scientific employee, in which years and years—the best years—go into the imitation of scientific labor under the name of "candidate" and "doctoral" (imitation, because the risk of being "blackballed" by working "seriously" is too great). The other flaw is payment and prestige not according to scientific production, but to degree, title and position, which generated a quasi-scientific parasitism unheard of anywhere in the world. The third flaw is the Chinese-Berlin Wall between academic, VUZ and sectorial science. What is a serious scientist, deprived of his scientific school? What is a headless sexton in a VUZ department? What is a scientific research institute, which exists only to justify the existence of its ministry? It is a state crime! It is the daily murder of science.

I do not want to repeat what everyone knows for the thousandth time. No matter what they say, in fact everything is much worse. Both in the academies, in the VUZ's, and in the sectors. Let me underscore just one thing: There will be an end to all this soon. Meanwhile the governments of all fifteen shards of the broken Union are trying to prolong the agony, for better or worse, fattening the above-mentioned half million and their three times more numerous service personnel. However, it is simply physically impossible to do this endlessly: Besides them, there are another at least 30, if not 40 million (on the scale of the former USSR) of

exactly the same "extras." From day to day the "ballast" must be thrown away, if we want to extricate ourselves from the quagmire of socialism which has vanquished us. Does this mean that if science (or rather, its social organization) was bad before, it would be better if it did not exist at all? No, it does not. For without any science at all things would be somewhat worse.

Is it possible to create "good" science, instead of the dying "bad"? Yes, it is. Those who study science have been talking about this for years. It suffices to engage in scientific, not in "dissertation" work, to pay not for titles, but for production, and to dismantle the above-mentioned Berlin Wall, and suddenly we will jump from wildness to civilization, maybe even bypassing barbarism. I remember how the dozens of participants in the Evenigorod conference "Social Aspects of Raising the Effectiveness of Science" dreamed about this 10 years ago. However, this seemed impossible at the time. Could our desk managers, academic mafia, and numerous docents really allow such a thing? But now fate has given us a kick and is rubbing our sleepy eyes, and bit by bit the impossible is beginning to become possible. Not everywhere, and not always the way one would want. But nonetheless....

Universal autonomy of the scientific-educational-production complex, where the main thing in a department is basic science, which is supported by the paid training of cadres and cost-accounting development work in the laboratory, with an emphasis on the experimental production base where possible, seemed like a panacea for the many scientific problems of old. However, what kind of autonomy can a lap-dog, fed by its master, have? For this one needs a cat, wandering about on its own (and, let us add, able to catch mice and not just miaowing on the ministry's lap). It seems, even now there is no place for such a cat on the former one-sixth of the dry land. Therefore, when I was invited to the Russian Open University, my surprise knew no bounds. Judge for yourselves.

There are tens of thousands of applications for admission. The VUZ is by correspondence and for payment, but people are ready to pay about 200 rubles a month or even twice that just to be free of the degrading procedure of admissions exams and the threat of the even more degrading "sifting" (when not due to idleness). There are no competitions whatsoever, and there is a thoroughly individualized approach to each in terms of the content and regimen of study. Study for your whole life, if it interests you and funds permit—although without leaving industry, although while searching for jobs in the coming mass unemployment. Depending on the content and successes in studies, a bachelor's or master's certificate awaits you, recognized, unlike our diplomas, by every country in the world. If one wishes, one can also defend a native candidate or doctoral thesis.

Funds from payments for education and from cost-accounting research in laboratories (plus receipts from sponsors interested in cooperating with the university)

suffice for the increased payment of specialists. Already the scientific elite from one academic institute after another, capable of preparing educational material for delivery to correspondence students, absolutely unattainable in the conditions of an ordinary VUZ, is coming to the faculties of various departments. And new tens of thousands of students will willingly go to interesting material, to world-renowned professors. The university is growing. Today its structure already includes more than 20 departments—from physics and mathematics to history and linguistics. We are starting to work not only for the domestic (including “the nearer foreign”), but also for a foreign audience. The university is becoming truly Russian: Branches or faculty departments are opening in one oblast center after another. In this regard, ever greater emphasis is made precisely on basic research: It is called on to give impetus to cost-accounting applied development work as well, and to more meaningful printed lecture courses.

So as not to seem unsubstantiated, let me refer to the experience of two university sub departments, in which I happened to work.

In the sociology department over the last semester alone, departments were created for the methodology and technique of sociological research, of sociology and psychology of management, of the sociology of the personality and social psychology, sociology of the family and social demography, of sociology of education, and a number of others. Next are departments for the sociology of labor, sociology of medicine, etc., virtually all the basic branches of sociology. I will not name the faculty heads, but will say only that all of them are first-rate specialists, some with world reputations. In the near future, the department plans to publish a series of printed lecture courses, textbooks, and workbooks for the basic branches of sociology, which others would also be proud to release. Futurology departments, as far as I know, do not exist in general anywhere in the world: The interdisciplinary orientation of research on the future is

too complex, there are not enough specialists, and the demand for them is not especially great due to the constant aspiration everywhere to reduce the forecasts of social phenomena and processes to unconditional predictions, although decisions in the sphere of management in fact, to the embarrassment of the predictors, either “self-fulfill” the forecasts, or “self-destroy” them. It is another matter when the emphasis is on “weighting” the consequences of the decisions being made. Precisely this comprises the network of modern technological forecasting, a domestic discovery later “rediscovered” in the West, having thus crossed back over the Fatherland’s border.

Relying on the assistance of the World Federation for Study of the Future, a special department not arising for now, only the Center for Research on the Future has been opened at the university. However, its structure already includes departments for the theory and methodology of forecasting, for the methodology and technique of forecasting, for forecasting new technologies, national economic forecasting, architectural and city planning, social forecasting, globalistics and alternativeistics, as well as an Institute of Forecasting with almost ten cost-accounting laboratories, heaped with orders and called upon to support basic development work in the faculties. Roughly the same can be said of the other departments. The Russian Open University, as everyone knows, is not the only educational and scientific center totally independent of the state budget. In Moscow alone about half a dozen of them have appeared over the last year. And what of it? Competition is the engine not only of a normal economy, but also of normal science. Are these the first harbingers of spring? Is this the only way to save our agonizing science?

The future will show. Life will show.

**Russian Open University: 115561 Moscow a/ya 1. Telephone: 925-36-82, Fax: 292-65-11. Center for Study of the Future, ROU: 1 23100, Moscow, a/ya 1.**

### Foreign Grants Given Tax-Free Status

937A0049A Moscow RADIKAL in Russian No 42 (99),  
Nov 92 p 9

[Article: "In the Ministry of Science of the Russian Federation"]

[Text] The support of Russian science from abroad, it appears, will cease to be a problem. A grant, that is, monetary assets, instruments, and scientific equipment, which are transferred voluntarily and free of charge to Russian scientists by foreign legal and natural persons for specific scientific goal programs, is a charitable contribution, not a payment for performed work and not foreign exchange earnings.

Thus, GRANTS ARE NOT ASSESSED ANY TAXES AND FEES.

So states the explanation of the Commission for the Budget, Plans, Taxes, and Prices.

In order to rule out abuses and not to allow commercial deals under the guise of grants, the Ministry of Science, the Higher School, and Technical Policy, as well as the foreign donors should confirm that the valuables being transferred are namely a grant—a free gift.

On 28 October 1992 the directive on the procedure of the customs registration of grants, which are received in Russia by funds for the support of science, was also signed.

The Ministry of Science, the Higher School, and Technical Policy reports to the State Customs Committee of the Russian Federation information about the list and amount of equipment, instruments, and materials being acquired from international foundations, which have been formed by foreign governments and scientific societies, and reports the numbers of the contracts for their importing, while the State Customs Committee of the Russian Federation promptly informs the appropriate customs houses of the exemption of these goods from the import duty.

Thus, THE WAY HAS BEEN OPENED FOR THE FREE SUPPLY OF RUSSIAN SCIENTISTS WITH HIGH QUALITY EQUIPMENT AND MATERIALS.

### Government Establishes Basic Research Fund

937A0038B Moscow ROSSIYSKIYE VESTI in Russian  
11 Nov 92 p 4

[Article under the rubric "Information for Thought" (Press Center of the Government of the Russian Federation): "The Basic Research Fund Is Being Established"]

[Text] The charter of the Russian Basic Research Fund—a self-administered government organization, which was established by the Edict of the President of the Russian Federation of 27 April 1992—has been approved by a decree of the Government of the Russian Federation.

The support of enterprising scientific projects is the main goal of the fund. The fund is a noncommercial

organization, and its activity does not envisage the derivation of a profit. The council of the fund is the highest administrative body.

In accordance with the charter, the fund promotes the development of basic research, the increase of the skills of scientists, the establishment of contacts, and the dissemination of information in the area of the basic sciences in Russia and abroad.

For the accomplishment of the tasks assigned to it the fund specifies the procedure of the consideration of basic research projects, organizes the examination and competitive selection of scientific programs, carries out their financing, establishes affiliates, branches, and representations, and engages in the output and dissemination of publications, audio-visual products, and other information materials.

The assets of the fund are formed by means of the state allocations which are envisaged for the financing of science in the republic budget of the Russian Federation.

### Wages of CIS Scientists Reported

937A0038C Moscow ROSSIYSKIYE VESTI in Russian  
11 Nov 92 p 4

[Article under the rubric "Information for Thought": "A Hungry Person Is Not in the Mood for Discoveries"]

[Text] This is one of the slogans, under which the meetings of Moscow and Novosibirsk scientists were held.

We will not question at this moment the assertion of Vice Premier and Minister of Science, the Higher School, and Technical Policy Boris Saltykov that "there is too much science in Russia," that the state is no longer capable of taking care of every institute, "spreading in a thin layer" budget allocations, and the expedience of the decree of the presidium of the Russian Academy of Sciences, which presume mass reductions of associates of academic institutes. Let us look at what this "thin layer" means in practice, and more precisely in the amounts of the wages of both an academician and a junior scientific associate.

The data cited below do not require comments—indeed, "a hungry person is not in the mood for discoveries." But a rhetorical question would be appropriate: Why did this "layer" prove to be thicker in Uzbekistan, Kazakhstan, and Ukraine? The work of Russian scientists is less efficient and is in need of reforms, the traditional scientific centers have suddenly been displaced to both the western and the eastern parts of the CIS, but away from Russia. From Russia, which always determined the high level of Soviet science

**Salaries at Scientific Research Institutions of Academies of Sciences**  
(in rubles, as of 1 September 1992)

	Institute director	Department (laboratory) head, scientific secretary	Lead scientific associate	Junior scientific associate
Armenia	3,900	1,700	1,700	1,000
Byelarus	7,119		3,957	2,677
Kazakhstan	14,000	10,000	8,000	5,000
Kyrgyzstan	4,640	3,040	2,600	1,840
Moldova	7,000	5,200	4,000	2,500
Uzbekistan	14,200	11,025	9,800	6,120
Russia	9,000	7,200	6,450	3,750
Ukraine	10,100	8,750	5,610	2,820

### **Russian Academy of Sciences Workers Union Publishes Protest Statement**

937A0044A Moscow RADIKAL in Russian No 40 (97),  
Oct 92 p 9

[Decree of the Council of the Trade Union of Workers of the Russian Academy of Sciences "On the Critical State of the Russian Academy of Sciences and the Start of Public Actions in Defense of the Professional, Economic, and Social Interests of the Workers of the Russian Academy of Sciences"]

[Text] The council of the trade union of workers of the Russian Academy of Sciences, having examined the decree of the presidium of the RAS [Russian Academy of Sciences] of 22 September 1992, "On the Financing of Institutions of the Russian Academy of Sciences During the Fourth Quarter of 1992," notes that during the fourth quarter of 1992 an extremely serious financing situation has formed at the Academy of Sciences: The budget deficit at the end of the year may come to more than half of the wage fund. In connection with this the above-named decree faces the departments, regional scientific centers, and institutes with the need to carry out extreme reorganization, which presumes mass layoffs of associates. The short time specified by the decree and the lack of any preliminary preparation make practically impossible the achievement of the main goal of the planned campaign—the distinction of "especially priority scientific directions" and "subdivisions which have the greatest scientific potential." At the same time the likelihood of adverse consequences, which can do irreparable harm to the academic community, is great. Not only the majority of scientific associates, but also any representatives of the administration are well aware of this: The rigid and straightforward organization of the outlined measures will lead to the supercharging of the "explosive" atmosphere in collectives and to the appearance of acute labor conflicts, during which the use of any objective criteria for the evaluation of work will become impossible.

The alleviation of the budget deficit of the RAS, which has been achieved during the mass reduction, will in a

few months be reduced to naught by inflation and new "sacrifices" will be required.

In connection with this the council of the trade union of workers of the RAS expresses disagreement in principle with the decree of 22 September 1992 and makes the following demands on the presidium of the RAS:

1. To suspend the effect of the decree of 22 September in the area of paragraphs 3.2, 4.1, and 4.4, which actually lead to mass layoffs of associates.
2. To take all the steps, which are provided for by the wage rate agreement, for the obtaining of financial support during the fourth quarter of 1992 and the first quarter of 1993, for the fulfillment of Edict No. 895 of the President of the Russian Federation of 19 August 1992, for the compensation of the increase of the cost of utilities, and for the further indexing of the increase of the wage.
3. To mobilize all the internal possibilities of the Academy of Sciences (the saving of assets on the item "overhead," inefficient production expenditures, the introduction of a partial work week, and so forth) for the prevention of mass firings.
4. Not to begin radical reorganization at the Academy of Sciences, without having implemented in advance the entire set of protective measures which are envisaged in the sectorial wage rate agreement for 1992-1993 on the securing of socioeconomic and legal guarantees of the workers of institutions of the RAS.

In conformity with the listed demands to charge the presidium of the council, the presidium, and the public action committee of the trade union with the following:

1. To enter into talks with the presidium of the RAS on the essence of the above-named problems.
2. Depending on the results of the talks—in case of the disagreement of the presidium of the RAS—to conduct mass actions in support of the demands of the trade union (the picketing of the building of the presidium and meetings of the departments, the expression of protest by scientific and production collectives).

3. To give assistance to the presidium of the RAS in implementing point 2 of the demands, up to the organization of mass actions of support, the use of the mass media and world public opinion.

4. To hold on 1 November 1992 in Moscow a protest meeting against the policy of the leadership of the Russian Federation, which foreordains the collapse of Russian science.

#### From the Editors

The academy trade union reacted rather sharply to the academy decree. Moreover, it directed its reproaches not only to the presidium of the RAS, but also to the leadership of the Russian Federation.

The other structures are reacting far more spiritlessly. By the end of last week the Ministry of Science either had not formulated or thus far had not expressed its opinion in this regard. Here you will actually fall into thinking—on the one hand, everything seems normal and within the framework of the policy announced by the ministry itself, but, on the other hand, everything is somehow being done as if the wrong way. The government machinery in the person of Ilya Lomakin-Rumyantsev, chief of the department of science and culture, looks at decree 250 without any approval: The academicians, they say, hurried, they did not try to use the available resources, they did not think out the action itself—in short, they acted like a physician who rejects a patent on the pretext that he is dying as it is and, hence, there is no point in expending efforts on him.

The directors of institutes for the most part are in no hurry to comment on the situation—it has not yet been discussed in their scientific councils. At two institutes, where the attitude toward the decree has already crystallized (we do not know whether this is a simple coincidence or a reflection of the general trend), they are preparing without the slightest panic for the coming reduction and regard it as a routine action of the times of stagnation.

#### Bureaucracy Stalls Yeltsin Edict on 'Preserving' Science

937A0038A Moscow *RADIKAL* in Russian No 38 (95), Oct 92 p 9

[Article by V. P.: "The Long-Suffering Edict"]

[Text] But our rulers are in no way having success with the implementation of the May Edict of Yeltsin "On Urgent Measures on the Preservation of the Scientific and Technical Potential of the Russian Federation." We have already written about the first point of this edict, which establishes the Russian Basic Research Fund. Thus far the fund does not exist. Now it turns out that it will not yet come about this year, next year one should also not expect its appearance, otherwise a campaign on the gathering of applications for grants would now be

bag of money, which is distributed by high-ranking bureaucrats, perhaps, will still start working, but it is doubtful that a normal, civilized fund will.

Now, it turns out, things are also amiss with the implementation of the last point of the edict, in which it is ordered "within a one-month period to prepare...proposals on the development of a set of effective stimuli for the attraction of foreign investments for the purposes of developing scientific research in the Russian Federation...."

To execute this point the Ministry of Science drew up the appropriate document long ago—back in February, that is, long before the appearance of the edict itself. The draft of the law "On Measures on the Stimulation of International Aid to Science in the Russian Federation" was prepared. A set of necessary measures is envisaged in it. For example, the right to the free opening of accounts at foreign banks was granted to the holders of grants. Today this is the prerogative exclusively of the TsBR [Central Bank of Russia].

The draft law also abolished the customs duties on equipment, which has been purchased for the dollars of a grant, and exempted these dollars from the currency deductions that are mandatory in our country, which is very important, inasmuch as according to current laws all the currency sums, which are received from abroad, are automatically reduced by 40 percent. Allowances are made, it is true, for science—for it this percentage has been reduced, according to our information, to 10 percent, but such a situation also remains unattractive for western investors.

Finally, the draft law deprived the state of the opportunity to dictate to the grant holder the terms, on which he can use his grant. All sorts of indirect outlays, the mandatory percentage of the deductions for the fund for the remuneration of labor, and so forth, which are regulated by our laws, were not applied to grants. The elaboration of the terms was left either to those, who give the money, or to those, who use it, by understanding.

There were two more points—tax points. One of them exempted grants from the value-added tax.

No act is issued in our country without rather lengthy consultation. By the end of June all the letters of the draft law had finally been checked. However, in July everything had to be started all over again. The parliament adopted a decree, in accordance with which a draft law, which does not have a direct bearing on the change of the tax system, cannot contain points that would change it. This is most likely a very necessary decree, but the draft law on international aid sank because of this, without having released a bubble.

It is a pity, of course. The regulation of an entire set of necessary measures by one act, as practical experience shows, greatly speeds up a process. But it cannot be helped: The Ministry of Science, the Higher School, and Technical Policy, and the government apparatus, having

conferred, decided to seek tax benefits separately and the rest separately. They are drawing up "the rest" as a decree of the government. It has already been prepared—in rough draft. And again it is going through the procedure of consultations. The nuances are being discussed, the wordings are being polished.... "Very, very quietly the snail crawled along the slope of Fuji...."

At the beginning of the year the edict of Yeltsin "On Urgent Measures..." found itself on the same conciliation merry-go-round. At that time, as they tell it, Aleksandr Shokhin, who did not give a damn about anything and with his own hand took the document which had been kept for a long time to the president for signing, broke the vicious circle. So that optimists can hope that, having gotten through this conciliation round, the draft of the government decree will still see the light (the measure for all that is urgent!), while it remains for pessimists to seek an opportunity for lobbying "a la Shokhin." It remains for us merely to throw up our hands and to giggle nervously—the edict, besides the first and last points, is also full of other points. And all are urgent.

### **Russian Academy of Sciences Financial Problems Continue To Grow**

937A0038D Moscow *RADIKAL in Russian* No 38 (95), Oct 92 p 10

[Article by M. L. under the rubric "At the Academies": "Academician A. Gonchar: The Basic Research Fund Will Not Be Operating Normally by the End of the Year"—first five paragraphs are *RADIKAL* introduction]

[Text] The discussion about possible means of reorganizing the institutions of the Russian Academy of Sciences, which developed last year, began immediately after the report of the chief of the Finance and Planning Administration, who depicted rather gloomy prospects of the existence of the academy during the fourth quarter.

Information from the report:

The average wage of associates of scientific institutions of the RAS [Russian Academy of Sciences] came in August to about 4,000 rubles [R].

For six months the numerical decrease of personnel of the RAS came to 9.8 percent (disregarding the regional departments).

During the fourth quarter the budget deficit of the academy may come to R1 billion even given the complete elimination of the outlays on capital repair, equipment, and the current expenditures on scientific research efforts.

At the very beginning of the discussion Academician D. Knorre addressed to the president the question of the possibility in principle of significant and large-scale

reorganization at the academy, inasmuch as thus far the leadership has simply not proposed a fundamental means of solving the problem. Yu. Osipov believed that the question was misdirected, inasmuch as, in his words, six months ago it was posed to executives of the departments of the academy, but they have maintained silence and have also not proposed their own formulas. The subsequent course of the discussion showed that at the academy they prefer as before to solve the problem at the local level, resorting to the already tested method of the reduction of staffs at institutes and leaving to the directors all the responsibility for the manipulations being carried out. But whether the next steps on the reduction of the staffs at institutes will yield the necessary impact is still a question. In the situation of the increase of the prices for energy resources now at many institutes the spending on municipal services already amounts to half of the budget. Accordingly the wage fund amounts to approximately one-half. But if the increase of utility payments continues (which no one doubts) and the spending exceeds the wage fund by several fold, then, as Academician Yu. Osipov correctly noted, any contrivances of directors with regard to the reduction of staffs will be in vain. In such a case, in his opinion, it is more advisable to carry out reduction "by structures," by closing some premises, parts of pilot works, and buildings in order to reduce the spending on heat and lighting. However, the question, to what method of reducing spending is preference to be given, simply remained unanswered, inasmuch as the chief of the Finance and Planning Administration believes that "for the present it is difficult" to count everything.

In addition to the problem of reducing spending the other side of the coin—the supplementing of revenues—was also discussed. To the complaints of academicians the president remarked that in addition to the stable sum for the academy (and now the financing of the RAS will appear in the budget as a separate line and, in the words of Yu. Osipov, the Ministry of Science, the Higher School, and Technical Policy will be unable to reduce this amount in any way) there are also such sources as state programs and the notorious basic research fund.

I would particularly like to speak about the fund. To all appearances, the majority of members of the presidium remain completely ignorant with respect to the situation with the fund. Incidentally, it is possible, it appears, to count on your fingers the number of omniscient people both in the Ministry of Science, the Higher School, and Technical Policy and in other departments. Although the question of the fund comes up regularly, including at meetings of the presidium, Academician A. Gonchar, to whom the organizational work was assigned, prefers to maintain silence or to confine himself to general phrases. And still even from these phrases and individual remarks it is possible to form some idea of the state of affairs with the fund and of what the money being allocated for the fund, which for the present does not exist, is being used for.

In particular, the academician stated unequivocally that the fund will not function normally by the end of the year and that the assets being allocated will be distributed during the last quarter in the same way as during preceding quarters, that is, by Academician Gonchar personally and, as far as we know, by a numbered few other people. Andrey Aleksandrovich expressed the hope that at the beginning of this month the draft of the Charter of the fund will, at last, be approved and next year "work will proceed in a more organized manner." It remains only to marvel at why it was impossible to submit the draft of the Charter in time, on the set date, so that work would have proceeded in an organized manner already this year.

As to the choice of addressees who receive assets of the fund, the president of the RAS noted: When distributing them A. Gonchar tries to take as a guide precisely the opinions about priorities, supporting the most promising institutes and groups. As far as I understood, primarily academic ones. In particular, in the heat of the discussion Academician Zh. Alferov was reminded by his colleague that the Physical Technical Institute, which Zhores Ivanovich directs, repeatedly received sums from the assets of the fund, and he even named a rather impressive total sum which was received during one of the quarters by academic institutions from the same assets. The RAS actually can regard the nonexistent fund as a significant additional source of the supplementing of finances. Observing now for nearly a year the strange fuss over the basic research fund, you are convinced once more of the truth: History repeats itself. It remains only to hope that the Russian fund escapes the fate of the union fund, which finished work which, in essence, had not even been started.

### **Russian Academy of Sciences Faces Billion Ruble Deficit**

#### **1992 Budget Outlined**

937A0036A Moscow NEZAVISIMAYA GAZETA  
in Russian 30 Oct 92 p 6

[Article under the rubric "Science" (INA "SOLYARIS"):  
"The Budget of the RAS: A 1 Billion Ruble Deficit"]

[Text] The budget of the Russian Academy of Sciences of the fourth quarter of 1992 is estimated at 2.65 billion rubles [R], which is only R100 million more than during the preceding quarter. During all of 1992 budget assets were allocated to the academy as an advance with final settlement and specification of the amounts of financing during the last month of the quarter. Quarterly financing increased, although more slowly than the rate of inflation. The budget of the first quarter was approved only in the middle of February in the amount of R900 million, the second quarter—at the beginning of July (R1.75 billion), and the third quarter—at the beginning of September (R2.55 billion). In all the amount of financing of the RAS [Russian Academy of Sciences] for 1992 from the budget is estimated at R7.8 billion.

The amount of budget allocations, which for the first time this year became known before the start of the quarter, nevertheless is causing serious alarm. Due to the acute shortage of assets institutes of the academy have practically ceased the purchase of equipment and have cut sharply the current spending on scientific work, therefore, suggestions on the elimination of several scientific institutions will be considered. Individual subdivisions of them, which have the greatest scientific potential, will be transferred to institutions that are similar in specialization. A number of organizations will have to be housed on smaller areas in order to reduce the rent. According to an estimate, the budget deficit of the academy during the fourth quarter may come to R1 billion even given the complete elimination of the outlays on capital repair, the acquisition of equipment, and the current expenditures on scientific research.

#### **Staff, Wages To Be Reduced**

937A0036B Moscow TRUD in Russian 4 Nov 92 p 1

[Article by Nikolay Fedorov: "The Academician Is Also To Be Unemployed"]

[Text] By a decision of the presidium of the RAS as of 1 November the reorganization of scientific institutions was begun, based on the financing allotted to them for the fourth quarter of this year. The concentration of scientific institutions for the purpose of reducing the payment for the leasing of buildings lies ahead, other expenses will be cut. It is easy to guess that the next "reorganization" will entail the reduction of staffs. And many scientific associates, especially young ones, have a real chance of finding themselves on the street.

The Council of the Trade Union of the RAS sent letters to B. Yeltsin, R. Khasbulatov, and Ye. Gaydar, in which, in particular, it was stated: "At present basic science in Russia is in a catastrophic state. The irreversible disintegration of scientific collectives and schools, which are recognized throughout the world, has begun. The consequences of this process are obvious—the disintegration of basic science will make impossible the attainment by our country of the world technical level. Consequently, Russia is doomed to be forever a raw material appendage of the industrial powers...."

Here is the opinion of A. Zakharov, deputy chairman of the Council of the Trade Union of Workers of the Russian Academy of Sciences: "The average wage of a scientific associate is R4,000 a month. But there is still the mass reduction of staffs here. Our famous academy campuses will soon be transformed into towns of the unemployed. Our trade union began talks with the government. In response: The academy of sciences will live as if nothing is happening around. The same limousines, the same luxury in the apartments of the leaders. Yes, there is a grain of truth in this. But what do the personnel of 350 research institutes have to do with it?..."

### Massive Privatization of Science Said To Be 'Exaggerated Rumor'

937A0050A Moscow RADIKAL in Russian No 42 (99),  
Nov 92 p 10

[Article by Marina Lapina under the rubric "We Continue the Theme": "The Rumors About Massive Privatization in Science Are Greatly Exaggerated"]

[Text] The privatization of scientific institutions in essence has not yet begun, but the persistent rumors about its ever increasing pace and scale are not just rousing the imagination, but are even evoking an angry response.

A letter with the request to halt the privatization of scientific institutions of the academy came from the Russian Academy of Sciences, for example, to the address of Goskomimushchestvo [the State Committee for the Management of State Property] of Russia. Although, as Yu. Lebedev, economic adviser of Goskomimushchestvo, on whom, in his own words, all the information concerning the RAS [Russian Academy of Sciences] is converging, gave assurances, not one academic institute has sent to this committee even an application for privatization.

Incidentally, the reaction of the RAS does not cause astonishment. The rumors that gave rise to it, just as any others, appear only when there is no reliable information. Its shortage exists, while the information that there is, is capable of breeding once again only rumors. In particular, about some staff games with the participation of two teams—Goskomimushchestvo and the Ministry of Science, the Higher School, and Technical Policy.

RADIKAL has already written about the letter of explanation, which at one time was prepared in the Ministry of Science, the Higher School, and Technical Policy and should have appeared with the signatures of the two ministers—A. Chubays and B. Saltykov—but never appeared. Moreover, the Ministry of Science, the Higher School, and Technical Policy, having set forth in the draft of the letter its vision of the procedure of privatizing scientific institutions, complained that it had waited for, but never received from Goskomimushchestvo any clear response in this regard. It turns out that the drawing up of a response was assigned to the same Yu. Lebedev, which, by his admission, he did. Which of the executives of the department of Chubays shelved this response simply remains a mystery. Including for its author.

In general the reaction of Goskomimushchestvo to the initiatives, which the Ministry of Science, the Higher School, and Technical Policy is displaying with regard to questions of privatization in the scientific sphere, testifies that there both was and is no complete mutual understanding of the two concerned parties. The All-Russian Scientific Research Institute of Economic Problems of the Development of Science and Technology of

the Ministry of Science, the Higher School, and Technical Policy conducted in Zvenigorod a seminar on problems of the privatization of the corresponding institutions and organizations. The seminar materials, with which they gave us an opportunity to familiarize ourselves, began with the enumeration of the organizations and departments, which took part in the work. Goskomimushchestvo was not even mentioned. In spite of the promise "to send a man," the committee simply ignored the seminar.

But meanwhile specialists of the RAS, the Ministry of Science, the Higher School, and Technical Policy, and the Economics Academy attached to the Ministry of the Economy of the Russian Federation and representatives of sectorial ministries discussed problems which have a direct bearing on Goskomimushchestvo. Among other things the formulation of approaches to the conducting of an inventory of scientific and technical organizations, the system of the licensing of scientific research, and so on were discussed.

The seminar participants during the discussion also directed attention to the fact that small innovation enterprises, large scientific production associations, and interbranch scientific technical complexes owing to their specific nature also require special approaches to privatization.

Goskomimushchestvo as a whole also agrees that the scientific and technical sphere and its individual components are very specific objects of privatization and require careful treatment. But for the present matters are not going beyond the recognition of this fact. The committee, in the words of the same Yu. Lebedev, does not intend to develop its own concept of privatization, not regarding this as necessary, and probably does not take seriously the concept of privatization, which was proposed by the Ministry of Science, the Higher School, and Technical Policy. All the same it is not worth ignoring the position of Yu. Lebedev, with whom staff members of the Ministry of Science, the Higher School, and Technical Policy in practice are not interacting. If only for the reason that his candidacy, as he confirmed, is being considered in Goskomimushchestvo for the post of chief of an administration (or department), under the jurisdiction of which questions of the privatization of institutions of the scientific and technical sphere will come.

Regardless of the deadlines of the settlement of organizational and personnel questions in the department of A. Chubays the Ministry of Science, the Higher School, and Technical Policy is continuing to work actively on the Privatization Program. The seminar participants discussed the plan of the work on the preparation of a package of documents which regulate privatization in the scientific and technical sphere. They plan to draw up the package of documents in December and to submit it to the government by 1 January.

**Elections at Ukrainian Academy of Information Sciences Announced**

937A0025A Kiev HOLOS UKRAYINY in Ukrainian  
9 Oct 92 p 14

[Announcement by Presidium of the Ukrainian Academy of Information Sciences under the "Advertisement" rubric: "Ukrainian Academy of Information Sciences"]

[Text] On July 23, 1992, the Ukrainian Academy of Information Sciences was registered at the Ministry of Justice of Ukraine.

The Ukrainian Academy of Information Sciences has been founded as a public self-governing scientific organization, which unites on a voluntary basis the most active and progressive scientists and professionals in the field of information sciences.

The objective of founding the Academy and of its activities is the development of information sciences as a basic science and theoretical foundation for informatization of the society, which supports the main direction of the S&T and socioeconomic progress of Ukraine.

Its basic tasks are as follows:

performance and coordination of basic and applied research in the field of information sciences;

participation in the process of informatization of the society, formation of information culture and popularization and propaganda of achievements of information sciences;

assistance in the development and implementation of new information technologies and technical means of information sciences;

publishing of scientific, educational, methodological and information and reference literature, magazines and newspapers;

participation in training (in VUZs and via post-graduate school) and retraining of personnel, including the highest qualifications personnel;

organization of and participation in activities of specialized scientific councils in maintaining dissertations;

scientific and organizational interaction with other Ukrainian and foreign academies, the Highest Certification Commission and Ministries and agencies of Ukraine.

The Academy will assist in wide development of the industry of informatization of the society based on modern communication and telecommunication means, in order to create conditions for free access by citizens of Ukraine to domestic and foreign information resources. The Academy intends to develop broad contacts with domestic and foreign organizations, scientists and professionals in the field of information sciences, as well as

in other fields of the national economy in order to ensure the world-class-level development of information sciences in Ukraine.

In order to conduct work along these directions the following Scientific Departments have been created in the Academy:

Basic Foundations of Information Sciences;

Information Processes of the Market;

Information Sciences in the Society;

Information Sciences in Biology and Medicine;

Information Sciences in Space and Military Affairs;

Information Sciences Industry and Computer Technologies.

Also the following regional centers have been created:

Dnipropetrovsk;

Donetsk;

Lviv;

Odessa;

Kharkiv;

Kiev.

More detailed forms of scientific activities of the Academy, its organizational structure, problems of membership in the Academy, financial and business questions etc. are set forth in the Bylaws of the Ukrainian Academy of Information Sciences, which have been registered in the Ministry of Justice of Ukraine.

At the Constituent Assembly of the Academy, which took place on June 19, 1992, and at the first general Assembly on June 30, 1992, the following persons were elected Academicians and Corresponding Members - founders of the Ukrainian Academy of Information Sciences:

**Alishov** Nadyr Aismayilovich - Cybernetics Institute, AN Ukrayiny [the Academy of Sciences of Ukraine]

**Voyevudskyy** Yevgen Mykolayovich - Odessa Water Transport Engineers Institute

**Vovkanych** Stepan Yosypovich - Economics Institute, Lviv Branch p73

**Voronov** Viktor Georgiyovich - Kharkiv Polytechnic Institute

**Garbarchuk** Volodymyr Ivanovich - Ukrainian-Polish Joint Venture "Kontakt"

**Grabchenko** Alla Mykhaylivna - Ukrainian Institute of S&T and Economic Information

**Grynyov** Anatoliy Fedorovich - Ukrainian Scientific Research Institute of Information and Technical and Economic Studies in Metallurgy

**Gulevatyy** Volodymyr Grygorovych - Cybernetics Institute imeni V.M. Glushkov

**Gusyatynskyy** Leonid Ivanovych - Applied Problems of Information Sciences Institute

**Derkach** Vitaliy Pavlovych - Cybernetics Institute imeni V.M. Glushkov

**Dorofiyenko** V'yacheslav Volodymyrovych - Golovin-formtsentr [Main Information Center], Donetsk Oblast State Administration

**Yermoshenko** Mykola Mykolayovych - Ukrainian Information Corporation "UkrNTI"

**Kalytych** Georgiy Illich - Ukrainian Institute of S&T and Economic Information

**Kanygin** Yuriy Mykhaylovych - Sociology Institute, AN Ukrayiny

**Kozak** Yuriy Oleksandrovych - Manager, Information-Analytical Department, MO Ukrayiny [the Ministry of Education of Ukraine]

**Korinnyy** Oleksiy Oleksiyovych - Center for Studies of the Scientific Potential, AN Ukrayiny

**Kruglikov** Borys Isaakovych - Information Sciences Institute, Minekonomiky Ukrayiny [the Ministry of Economics of Ukraine]

**Kutsenko** Stepan Petrovych - Kiev National Economy Institute

**Leshchenko** Viktor Myronovych - Ukrainian Republican Corporation "UkrNTI"

**Londarenko** Olena Mykhaylivna - TsBNTI [Central Bureau of Scientific and Technical Information] for Light Industry "LEGTEKS"

**Lutskyy** Georgiy Mykhaylovych - Kiev Polytechnic Institute

**Nesterenko** Oleksandr Vasylyovych - Information Registration Problems Institute, AN Ukrayiny

**Olenovich** Ivan Fedorovich - Anti-Aircraft Defense Academy of Ukraine 83

**Parfentseva** Nelya Oleksiyovna - Statistics NDI [Scientific Research Institute], Minstat Ukrayiny [the Ministry of Statistics of Ukraine]

**Parkhomenko** Volodymyr Lukych - Applied Problems of Information Sciences Institute

**Putyatyn** Yevgen Petrovych - Kharkiv Radio Electronics Institute

**Reshodko** Leonid Vasylyovych - Kiev State University

**Sayenko** Grygoriy Vasylyovych - Donetsk NDI of Safety of Operations in Mining Industry

**Semenyuk** Eduard Pavlovych - Ukrainian Printing and Publishing Institute imeni I. Fedorov

**Sorokin** Viktor Panteliyovych - Army PVO [Anti-Aircraft Defense] Military Academy

**Tarasov** Vadym Vasylyovych - Konotop SPKTB [Special Planning, Design and Manufacturing Engineering Bureau], DKNT Ukrayiny [the State Committee of Ukraine for Problems of Science and Technology]

**Tyshchenko** Georgiy Ivanovych - ASKONG [expansion not given] President

**Filipenko** Igor Grygorovych - Kharkiv Railroad Transport Institute

**Kharchenko** Leonid Sergiyovych - Information Sciences Software and Hardware NDI

**Tsekhmistro** Ivan Zakharovych - Kharkiv University

**Shvets** Mykola Yakovych - Center of Computerized Information Systems, the Supreme Soviet of Ukraine Secretariat

**Shevchenko** Grygoriy Sergiyovych - Lviv Center of S&T and Economic Information

**Yakovenko** Yuriy Ivanovych - Sociology Institute, AN Ukrayiny.

M.M. Yermoshenko was elected President of the Ukrainian Academy of Information Sciences, G.M. Lutskyy and L.V. Reshodko were elected Vice Presidents, and A.M. Grabchenko was elected Chief Scientific Secretary.

Presidium of the Ukrainian Academy of Information Sciences is located at 252171, Kiev, Gorky Street, 180, telephone 261-09-45. Contact telephones:

Yermoshenko M.M. - 268-25-22

Lutskyy G.M. - 441-94-56

Reshodko - 266-92-85 p73 Grabchenko A.M. - 269-35-41.

**Presidium of the Ukrainian Academy of Sciences**

**'Military Industrial Investment Company' to Help Stem 'Brain Drain'**

927A0280A Moscow POISK in Russian No 31 (169), 25-31 Jul 92 p 3

[Article by Sergei Leskov: "They Would be Happy To Contribute..."]

[Text] It is no secret that most scientists in the former USSR one way or another served the military-industrial complex. An army of highly skilled engineers and designers was concentrated in the "PO boxes," in every conceivable defense scientific research institute, and in

**the closed design bureaus. The intellectual potential of Soviet science was realized precisely here.**

Today the state order for VPK [military-industrial complex] enterprises has been cut by 60-70 percent, although the production base and inventories of many "defense" enterprises are at a significantly higher level than in the civil sector. The intellectual, technical, and production capacities of defense enterprises, which have fallen under the knife of conversion, are not being used. The outflow of cadres from many NII's [scientific research institutes] and KB's [design bureaus] is reaching a boundary, beyond which lies disintegration.

Can these destructive processes be halted? It should be noted that in the developed world even a state with a full treasury almost never provides all technical laboratories and design bureaus with orders. The financing of scientific establishments is carried out through many channels, and investment companies are considered one of the most widespread and reliable. These companies, having accumulated the freely available resources of their founders, direct the funds to support various promising projects.

Similar firms began to appear quite recently in our country. The largest of them is the Military-Industrial Investment Company [VPIK], whose working capital is equivalent to 1 billion rubles. Recently the VPIK summarized the results of its activity for the first half year. These results are highly instructive.

The VPIK portfolio has about 150 priority technical projects. True, only 11 have been invested in (the time period for implementation is about two years, the overall cost, on the order of 100 million rubles). The projects being supported include the creation of the country's largest commercial telecommunications system, the production of an anti-cancer preparation, a computer complex for radiation therapy, a diamond instrument, an ozone generator for agriculture, and the raising and processing of timber submerged in Siberian rivers...

In order to accumulate free investment resources locally, the VPIK began to create regional centers. Their geography echoes the location of the Russian defense centers—St. Petersburg, Nizhny Novgorod, Voronezh, Zlatoust, Omsk.

The authority and knowledge of an investment company in many ways is determined its personnel. Specialists

who have thoroughly studied the sector—Vitaliy Doguzhiyev, a former minister of general machine-building of the USSR and vice prime minister of the USSR, Yuriy Matsak, deputy chairman of the State Commission on Military-Industrial Problems, Viktor Surikov, deputy director of TsNIIMASH, the intellectual center of domestic cosmonautics—were chosen for the VPIK council of directors. These names are the VPIK's calling card for its foreign partners, who are increasingly active in seeking a way into the Russian defense sector. Here let us note the Russian-American joint enterprise "Sovkonsalt," which will advise Western investors and seek the most profitable investment programs for them.

Nonetheless, however, the Military-Industrial Investment Complex, due to the conditions that have formed in our economy, is using its possibilities far from fully. This is especially sad because this company, with the significant weakening of budget financing, has turned out essentially to be the only market institution which can attract capital for long-term investment in science-intensive programs. In the opinion of V. Doguzhiyev, one of the main barriers is the absence of state and regional concepts for economic development which clearly define investment priorities for one or another industry. That is why investors prefer to trade, accumulating capital.

Moreover, it alarms investors that most state enterprises (especially defense) have not become joint-stock. Because of this, investment loses its effectiveness and does not conform to the laws of a civilized stock market. However, right now the privatization of state enterprises is unlikely: Allegedly, they are unattractive to private investors because of their low profitability. What is the way out of the situation? A number of experts believe that not massive privatization, but the creation of mixed private and state enterprises in the former defense sector would be more promising.

The abundance of difficulties enables us to make a cheerless forecast: Happy times for the enterprises and institutes of the military-industrial complex will not be coming soon. It will be most irreparable if the intellectual potential of the sector, where our best minds have accumulated for decades, is "dissolved." In such a situation, the strategy of the VPIK and other similarly-oriented market structures may end up being the last hope for our science.

### Commentary on Patent Law Signed by Yeltsin

937A0039A Moscow DELOVOY MIR in Russian  
24 Oct 92 p 10

[Interview with Mikhail Lvovich Gorodisskiy, general director of Soyuzpatent, by DELOVOY MIR correspondents Oleg Shcherbakov and Svetlana Sheverdina; place and date not given: "The Patent Will Protect and Enrich"—first paragraph is DELOVOY MIR introduction]

[Text] President Yeltsin after the reconsideration of the Patent Law of the Russian Federation by the Supreme Soviet signed it. Our correspondents have a talk about this law with Mikhail Gorodisskiy, general director of Soyuzpatent.

[DELOVOY MIR] Mikhail Lvovich, will the new law make our inventors happy? What fundamentally new thing will it bring?

[Gorodisskiy] If only the fact that you are saying the word "law," and not Statute No.... But, perhaps, the main thing is the orientation toward the creation of a normal market economy in the country. In the new law, for example, you will no longer find such a definition as "authorship certificate".... Your invention will cease to be "national" and, consequently, generally accessible.... As of the moment of the appearance of the law only the patent, the basic purpose of which is to protect your property, your invention, exists.

[DELOVOY MIR] Thus, does the new law conform to international legislative standards?

[Gorodisskiy] During its preparation and discussion in the Supreme Soviet we strove precisely for this. We tried to see to it that it would be equivalent to similar legal acts of the developed countries of the world. And, incidentally, the law passed international examination.

[DELOVOY MIR] But, in spite of this, the president returned it for reconsideration....

[Gorodisskiy] The point is that the questions of the protection of intellectual property in the first version of the draft of the law for some reason were assigned to the joint jurisdiction of Russia and the autonomies. This is actually extremely unwise, for then, in order to grant patents, say, in Bashkiria or Yakutia, it is necessary to set up there their own special departments. But what for? It already exists in Moscow. Especially as this is rather expensive gratification. Each year the state spends more than 100 million rubles on the Institute of Patent Examination alone, at which about 2,000 specialists work. And, as far as I know, the autonomies themselves are not expressing a particular desire to draft their own patent laws.

Now the entire world, except for us, is striving for integration. In Europe the members of the EC have set up a joint patent office in Munich. Although in each

patent is granted. Having submitted only one application, a person obtains the protection of his invention in the 12 member countries of the EC.

Ukraine and Byelarus are now setting up their own patent offices. And nevertheless they are striving for a common patent territory. A decision on the preparation of an international convention on this question among the countries of the CIS has already been made. But what will come of it? For example, an inventor in Kiev invented some machine, but people need it, for the most part, in Siberia or Kazakhstan.... So, will the inventor have to obtain 15 patents in all the republics of the former Union?... Meanwhile it is very important for him to protect his invention with a patent, since it gives you legal protection of a monopoly nature. The patent gives its holder exclusive rights. This is the only form of legal protection, moreover, exclusive protection. On the territory, on which a patent of your scientific and technical achievement has been granted, no one has the right either to reproduce or to use your development. That is why now, for example, foreigners are actively penetrating the patent market of our country. They hope that the patent, which is valid for 15-20 years, will protect their monopoly interests.

[DELOVOY MIR] Mikhail Lvovich, I do not know whether anything will change with the appearance of the new law on our market of intellectual property, but for the time being Russian inventors are patenting their developments abroad....

[Gorodisskiy] And a tragedy is resulting.... Assume that you paid \$6,000-7,000 for the entire process of patenting. But in addition to this, on a specific day and at a specific hour it is necessary to pay the annual fee. But today far from everyone has currency, if he was unable or did not have the time to pay, the patent automatically loses its validity. Use then the invention, whoever wants to.... Just recently we had 16,000-17,000 patents abroad. Now we have 4,000. More than 10,000 were canceled for the failure to pay the fee. The Russian scientific and technical potential is being shattered. But, by using only 1 percent of what we have lost on a commercial basis, we would earn millions. And this is without exporting any physical assets. I myself at one time set up Soviet license trade, that is, I dealt in licenses for the use of inventions. People did not earn as much on anything as on this....

We wish with all our heart to help Russian inventors. We are willing to pay the money of our collective, of course, with the subsequent, after the derivation of profits, interest-free compensation of our expenditures, but our currency account was arrested at the Bank for Foreign Economic Relations....

At any rate the law has been signed. And this will enable us in our country not only to defend the rights of our inventors and producers, including against unfair competition, but also to attract to our economic space a large number of new

### Science Official Notes Need for Russian-European S&T Integration

937A0031A Moscow IZVESTIYA in Russian 31 Oct 92  
p 4

[Interview with Augustino Forti, director of the International Center of Science and High Technologies (Trieste), by IZVESTIYA correspondent Boris Konovalov; place and date not given: "Europe Will Help Scientists"—first two paragraphs are IZVESTIYA introduction]

[Text] "In the aid of the West to Russia it is necessary to give priority to science."

Such is the point of view of Augustino Forti, director of the International Center of Science and High Technologies in Trieste, which is a part of the system of UNIDO—the UN Industrial Development Organization. Together with an international group of lecturers he came to Moscow for the conducting of courses in research management.

[Forti] In my opinion, A. Forti says, it is necessary to revise the entire system of the management of science and technologies in Europe. We should not wait for the inclusion of Russia in a political or economic union with united Europe, but should already today integrate its science in the European Community. There are, in essence, no obstacles for this.

Russia is going through difficult times, says A. Forti, and, based on the long-term interests, Europe should come to its aid. But however important the aid in grain, food, and medicines is today, it is of an immediate nature. But the aid to Russian science, to the development of technologies, and to the modernization of industry—this satisfies the long-range interests of both Russia and Europe.

In many areas—astronautics, physics, chemistry, the development of new materials—Russia has a mighty potential. Its loss will be a loss for all mankind. Therefore, starting next year an all-European fund of aid to Russian science, which is being formed on the initiative of French President F. Mitterand, will begin to operate. Its headquarters will be located in Brussels. The assets of the fund will first of all be allocated for business trips of Russian scientists to various European organizations and for the financing of individual jobs in Russia itself.

### Joint Statement of European Science Officials on Problems of CIS

937A0040A Moscow POISK in Russian No 39 (177),  
19-25 Sep 92 pp 1, 7

[Article under the rubric "The Scientist and Policy": "We Are Not Indifferent to Your Troubles. A Joint Statement of the European Science Foundation and the European Academy of Sciences on the Problems Facing the Scientific Committee of the Former Soviet Union,"

[Text] 1. In recent times it has become clear that the radical changes, which are occurring now on the territory of the former Soviet Union, are causing some undesirable side effects. The transition from a monolithic centralized system to a large number of successor states, which are united in a still indefinite Commonwealth, economic confusion and hyperinflation, the inability of state bodies to draw up a budget or plan even for a short or intermediate period signify the absence of if only elementary certainty, which is so necessary for socioeconomic life. The picture is characterized by considerable dynamism and is changing very rapidly, moreover, enthusiasm is alternating with despair, while the belief in the future is competing with gloomy predictions of difficulties for the immediate future. We as scientists are worried about the effect of all this on former Soviet science and most of all on its atomic sections.

2. Under the former regime scientists enjoyed particular respect and a number of privileges. Both have now disappeared. Evidence exists that the unpopularity of the nomenclature also extended to the scientific and technical elite. It has become difficult to ensure on the part of the new Russian political leadership the continuity of financing of even the most prestigious institutes—both research and educational. In the other successor states the situation, as a rule, is even less satisfactory.

3. The end of the Cold War is affording the prospect of a less divided Europe. In the scientific sphere we have the right to hope for the birth of a truly European Scientific Community. However, in the successor states (of the Soviet Union—translator's note) conditions are deteriorating so rapidly that without immediate international support their scientific base is endangered for many years. Institutes and research centers lack assets for the purchase of journals, instruments, and materials. This is making it impossible to perform work at the proper level, to train specialists, or to carry our research which conforms to accepted quality criteria. Although there are no doubts that during the present economic transition period other wage ratios will appear, the occurring sharp decline of the absolute and relative income of scientists can be the cause of the departure of a certain number of fine specialists. Such a "brain drain" both to other types of jobs and abroad serves as part of the process which, if it gets out of control, can lead to the irreversible decline of the level of education, science, and technology.

4. We believe that, being all-European bodies, whose existence is connected with the aspiration for knowledge in all areas as an integral part of any civilized society, we should direct attention to this dramatic trend. We welcome the movement toward democratization and economic reform and acknowledge that some redistribution of resources is inevitable. But we insist that the adequate basis of first-class scientific education and research activity, which of necessity has been reduced, should be preserved. As scientists we insist that the skills and perfection, which were gained by Soviet science during

decades, should not go to ruin. We believe that the concentrated efforts of the West can now offer the proper incentives and help in order to enable leading institutes to continue their work, and, when the transition period concludes, they will be able to return to research activity on a full scale.

5. All this is causing serious alarm and requires the solidarity of the international scientific community, but the problems, which are connected with the area of military hardware and atomic research, are even more menacing. Such problems are arising as the combined effect of the sudden loss by scientists and technicians of their socioeconomic status and their lack of assets; the collapse of social order and the opportunity, which has now appeared, to emigrate. Judging from published materials and individual contacts, there exists a serious threat of the appearance of an illegal market of military and atomic know-how and computer programs. The risk connected with an atomic market is obvious, but the less well-known consequences of the export of chemical and biological weapons are causing anxiety.

6. Aid, particularly for the redirection of knowledge, which pertains to the military field, into the accomplishment of other tasks and problems, especially those which are connected with the new needs of the successor states, namely with the science of the state of the environment and its monitoring, power engineering, the medical sciences, and so forth, is necessary for the reduction of such a risk. We are convinced that such changes are actually feasible and controllable. Something is already being done. It is possible to group an even larger number of fields with the ones, in which considerable efforts will be required, so that one should call what it has already been possible to achieve merely the tip of the iceberg. A large, coordinating program, which should be started quickly, as soon as resources are made available on the proper scale, is necessary.

7. In the United States and Europe the anxiety with regard to the possible consequences of the spread of the Soviet ability to produce nuclear weapons is increasing. Talks are even being conducted on linking food and financial aid with steps against the transfer of nuclear weapons. There are, however, doubts about the effectiveness of such a step; in our opinion, it would actually prove to be counterproductive. Weapons in themselves are only part of the problem; ideas and knowledge have been embedded in the brain of scientists and technicians. We should also prevent their placement at the disposal of regimes, which have military aspirations and the willingness to ignore the treaties on the nonproliferation of nuclear weapons. Thus, being conscientious scientists, we believe: It is necessary to take specific steps so that these human and material resources would remain within the system that is emerging on the ruins of the Soviet Union. We are convinced that only prompt aid, which is aimed specifically at the needs of the scientific community, will create the conditions for the achieve-

8. The international pressure, which is aimed at the control of military know-how and hardware and nuclear and special types of weapons, should be coordinated and resolute. It is necessary to make efforts so that the United Nations would exercise its moral authority. In particular, it is necessary for the International Atomic Energy Agency (IAEA) to make stronger its reaction to the events in the former USSR, which thus far has been timid and even veiled.

9. Such international efforts will require mobilization on a global scale. We consider that our proposal of concentrated aid to the scientific communities of the successor states, which was stated above, is merely the first important step. It will also require support on the part of:

- institutions under the United Nations;
- the Organization for Economic Cooperation and Development and its member countries, each of which has scientific capabilities for cooperation with former Soviet colleagues, in order to establish what they need and where;
- the European Community, which is already participating in various aid and scientific cooperation programs;
- various scientific institutions of the West, both national and international, which could be in charge of cooperation with colleagues in the East, offer them joint work, share information sources with them, and transfer unnecessary equipment and instruments.

10. The European Science Foundation and the European Academy of Sciences are prepared to take what part they can in this, generating understanding and mobilizing their members for the support of the plan of necessary actions. We realize that our contribution can play the role of only a catalyst, not a mighty efforts. Nevertheless all of us, who are displaying activity on the arena of European science and technology, should raise our voice so that it would be heard. A quite real threat faces the present hopes in the future. We do not have the right to ignore it.

[Signed] Umberto Colombo, President of the European Science Foundation

Strasbourg

Arnold Bergen, President of the European Academy of Sciences

London

#### **Nuclear Physics Institute, Duke University Sign Laser Agreement**

927A0288A Moscow *RADIKAL* in Russian 30 (87), Aug 92 p 11

[Unattributed article: "Durham-Novosibirsk: Prospects

[Text] An agreement, signed by Duke University in Durham (North Carolina) and the Institute of Nuclear Physics imeni G.I. Budker in Novosibirsk, opens broad prospects for cooperation between American and Russian physicists in work to create and use the newest laser systems. The memorandum on mutual understanding which they initialed stipulated, in particular, the possibility of transferring the so-called OK-4 "optical klystron" from Russia to the U.S. by the summer of 1993.

If this concept is implemented, this unique laser system, created by Novosibirsk specialists, would become a component part of a laser installation of the next generation, now being built in one of the laboratories in Durham.

In the opinion of John Meydi, director of this laboratory, this would accelerate the creation of a free electron laser, capable of generating powerful ultraviolet radiation, by two years. As far as the Russians are concerned, in the words of the project's authors, at the moment the OK-4 is transferred to the U.S. they will already have

exhausted their own research possibilities using this device. The cost of the Novosibirsk "optical klystron" is roughly 3.5 million dollars.

Meydi believes the agreement achieved to be one of the greatest technical exchange programs between the U.S. and Russia and calls it "a radical breakthrough in scientific interrelations between the two countries." In his words, the program opens the possibility fruitfully to use the development work conducted in the U.S. and Russia independently over the last 15 years. Vladimir Litvinenko, creator of the OK-4, shares this delight. He has been working in Meydi's laboratory for more than one and a half years already, but since he left Novosibirsk he has dreamed of being reunited with his technical offspring, left in the homeland.

Implementation of the agreement between the two scientific centers depends on whether Meydi manages to obtain funds to finance the planned research program. He has had no lack of government subsidies in the past. He was granted about 30 million dollars by the U.S. Air Force, the Army Strategic Command, and one of the programs which grew out of the organization to implement SDI.

**Latvia Requires Reregistration of Patents**

937A0034A *Moscow RADIKAL in Russian* No 37 (94),  
Oct 92 p 9

[Article: "Inventors, Attention! You Have Only a Month To Reregister Your Inventions in Latvia"]

[Text] The Patent Office of the Republic of Latvia was established on 19 February 1992. For the purposes of the assurance of the legal protection of inventions, industrial designs, and trademarks, as well as the defense of the interests and rights of their authors and owners the Council of Ministers of the Republic of Latvia adopted Decree No. 72 of 28 February 1992, "On the Temporary Procedure of the Protection of Inventions, Industrial Designs, and Trademarks in the Republic of Latvia."

In conformity with the Temporary Procedure the authors of inventions and industrial designs, who submitted applications to the Patent Office of the former USSR prior to 31 December 1991, are granted the right jointly with the applicants or the patentees to petition for the granting of the corresponding patents of the Republic of Latvia. The granting of patents can be carried out with respect to authorship certificates and patents of the USSR, with respect to which at the moment of the submission of the petition the 20-year period from the day of the submission of the application for the granting of an authorship certificate or a patent for an invention and the 15-year period from the day of the submission of the application for the granting of an authorship certificate or a patent for an industrial design have not expired. Copies of the protective documents, which were granted by the Patent Office of the former USSR, or a copy of the decision on the granting of these documents should be attached to the petition.

Petitions can be submitted with respect to applications for the granting of authorship certificates or patents of the USSR for inventions and certificates or patents of the USSR for industrial designs, which at the moment of its submission were in the process of examination. The

petition is equated in this case with a national application for the granting of a patent, which has been submitted to the Patent Office of the Republic of Latvia. The priority certificate, which was issued by the Patent Office of the former USSR, and copies of the application materials are appended to it.

The document, which confirms the payment of the state fee, is a mandatory document which is appended to petitions. The petitions for the granting of protective documents of the Republic of Latvia are accepted by the Patent Office until 31 December 1992. Prior to this date the owners of trademarks (service marks) of the USSR can reregister in the Patent Office of the Republic of Latvia the trademarks (service marks) of the USSR, which belong to them, in accordance with the procedure which has been established for the obtaining of patents for inventions and industrial designs.

After 31 December 1992 legal protection on the territory of the Republic of Latvia is guaranteed only by a trademark (service mark) which has been registered in the Patent Office of the Republic of Latvia. The petitions for the granting of patents of the Republic of Latvia are submitted to the Patent Office at the address: Riga, Ulitsa Turgeneva, 19.

Patents can be granted in the name of the author or any other natural or legal person indicated in the petition (by mutual understanding).

The decree grants to any natural and legal persons of the Republic of Latvia the right to use inventions and industrial designs, for which protective documents of the former USSR were granted prior to 21 August 1991, provided petitions will not be submitted and patents of the Republic of Latvia will not be granted for these objects of industrial property. The rights of the authors and applicants of used inventions and industrial designs will be defended in this case on the basis of the standard documents which were in effect prior to the indicated date.

### Election of Ukrainian Social Scientists to Academy Criticized

937A0052A Kiev GOLOS UKRAINY in Russian  
17 Nov 92 p 10

[Article by Yekaterina Kindras under the rubric "The Subjective Opinion of a Special Correspondent": "Perpetual Coffee House Singers and Immortal Academicians"]

[Text] Recently the Academy of Sciences of Ukraine published a list of the new candidates for academicians and corresponding members. The register was imposing—in the newspaper DEMOKRATICHNA UKRAYINA (the former RADYANSKA UKRAYINA) it takes up more than a page and numbers 497 candidates. A visiting Nobel Prize winner, who never suspected the existence of the Ukrainian State, having seen such a list of intellectuals, would draw the conclusion that he had landed in one of the most developed countries of the world. It prompts to completely different thoughts a person, who was born in Ukraine not today and is initiated if only a little in the secrets of "the main headquarters of science."

Among the candidates there are many well-known and respected scientists—mathematicians, biochemists, power engineers, and literary scholars, the results of whose scientific research satisfy the requirements of the charter of the Academy of Sciences: They elect as full members (academicians) of the Academy of Sciences scientists, **who have enriched science with works of paramount scientific importance**; they elect as corresponding members scientists, **who have enriched science with outstanding scientific works**.

However, the position of "social scientists" is striking. Among the candidates, who were nominated by institutes of the History, Philosophy, and Law Department, there are also many familiar names. For example, N. Mikhachenko is a well-known "political scientist" of the present, who until 1990 was in charge of the department of communist education of the Institute of Sociology. The group of his scientist interests is Marxist-Leninist ideology, the influence of communist ideology on the activity of the working masses, and so forth. Precisely the last work of Doctor of Philosophy N. Mikhachenko, *Marksistskaya politicheskaya ideologiya (Marxist Political Ideology)*, which was published in 1991 at Naukovii dumtsi, is probably an "outstanding scientific work." A few no less "outstanding" quotations: "The ideals of communism...conform most completely to the goal and prospects of social progress, confirm the correctness and humanism of socialist society, acting as an ideological stimulus in the activity of people...." "...any Soviet citizen, if he wants to remain a loyal son of the socialist homeland, should keep in mind the common, uniting idea that links us together: We are the Soviet people.... This idea requires defense." Perhaps, the author of such scientific achieve-

was established, for example, on the initiative of the socialist party, but not the national academy of Ukraine.

It is also strange to see among the candidates the name of Corresponding Member I. Kuras, director of the Institute of Political Science and Ethnic Relations. Incidentally, dear Ivan Fedorovich a year ago in an interview to our newspaper agreed that in Ukraine political science is just arising, that Ukraine does not have enough specialists in ethnic relations, while to the question about the extraordinary change of occupation of the doctor of sciences, who for a long time studied petty bourgeois political parties of the late 19th and early 20th centuries and problems of the history of the CPSU, he responded: **"The process of reinterpreting the truths which I previously believed** (I will recall that they banned the activity of the CPSU—the Communist Party of Ukraine in 1991—the author) **is far more complicated than they write about in books.**" The majority of us have heard, and more than once, that "the process has started," but no one anticipated that in the social science of Ukraine it would "come" so quickly, without changing anything fundamentally in its path. Now it is not surprising that in recent years—both of perestroika and of the building of the state system—not one leading scientist, who, while specializing in the criticism of Ukrainian bourgeois nationalism and in the problems of Marxism-Leninism, acquired a title and position, having thus landed among the "immortals" (the title of academician and corresponding member is for life—the author), declared his unwillingness to continue or the immorality of continuing scientific activity in the same spheres, but now in the role of a political scientist or ethnologist, a cultural expert or expert in religion. There is no road back, it turns out, from "academic immortality." Although, judging from the many candidates who were nominated this year by the History, Philosophy, and Law Department, purely scientific services today, just as yesterday, are of far from decisive importance. Today, just as yesterday, a certain portion of the talented scientists (in academic jargon "coffee house singers") find themselves in the category of the people who do not have a single chance to obtain admission "to immortality."

History is repeating itself. And once again it confirms that, as a rule, no one is learning any lessons from it. During the last election of full and "semi-full" members of the Academy of Sciences philosophers nominated A. Gordiyenko, V. Yevdokimenko, Yu. Rymarenko, and V. Chernyavskiy, well-known fighters against Ukrainian nationalism and experienced critics of bourgeois concepts. That election was memorable in addition to everything else for the statement of Oles Gonchar, who stopped the pulling of several Communist Party functionaries in among corresponding members. At that time these prominent scientists did not have the luck to supplement the academic beau monde. However, in the long list, which was published by DEMOKRATICHNA UKRAYINA, there are the names of both A. Gordiyenko—now a prominent specialist in the sphere of for-

long ago was removed from the post of prorector of the Higher School of the Militia, but is now a chief scientific associate of the Institute of State and Law....

What has changed at "the headquarters of academic science"? And is it not surprising that nothing is changing in the state? Just as before, "my relative will not peck out your relative's eye." Just as before, the newly elected people will take up the baton and will continue the traditions. There is a single way out—to break this circle. But Oles Gonchar, unfortunately, is alone in Ukraine. And such subjective remarks, as life again confirms, are an ordinary attempt to hit one's head against the wall. A wall which, unlike the Berlin Wall, in Ukraine is indestructible.

### **Russian Labs Said To Be Selling Secret Technology Too Cheaply**

937A0032A Moscow IZVESTIYA in Russian 3 Nov 92  
p 4

[Article by IZVESTIYA correspondent Aleksandr Sychev: "\$25,000 Is the Price of Seven Reports on Laser Technology"—first paragraph is IZVESTIYA introduction]

[Text] "The leading U.S. laboratory in the area of defense development is conducting talks with 20 technical institutes of the former Soviet Union on the purchase from them of once supersecret data on laser technologies."

THE ASSOCIATED PRESS conveyed this, without exaggeration, sensational news with a reference to the American newspaper THE SAN JOSE MERCURY NEWS. It is a matter of agreements with the Livermore Nuclear Research Laboratory.

As we succeeded in ascertaining, the regular delegation from Livermore left Moscow for home on 26 October, taking with it contracts with 19 Russian institutes and one Ukrainian institute. On our part there was not a common organizer of these deals. The people from Livermore contacted the institutes that interested them directly, having used only a room in a building of the Russian Academy of Sciences (RAS) for conducting the talks. "For the first time an American military laboratory is buying information from the former main enemy of America. Moreover, this is information which the CIA hunted for unsuccessfully for years," the agency says in amazement.

The business was done rather quickly. Just a few months ago a large delegation from the Livermore Laboratory visited scientific research institutes of Moscow, Dubna, and closed Sverdlovsk, Chelyabinsk, and Armavir—in all 14 scientific research centers. Then in July they invited our scientists to the United States for a working conference on the problems of conversion. It was then that the people from Livermore placed on the table a large package of proposals under a common "head-

Academician G. Mesyats, chairman of the Urals Department of the RAS, who owing to his position knows about the agreements concluded by several of the institutes subordinate to him, related that the Livermore Laboratory will spend on the project undertaken by it in all from \$300,000 to \$400,000. For this money the Americans want to obtain something like detailed abstracts on research on specific themes.

It is possible to judge how much each institute will receive from the contract which the Institute of Physics imeni Lebedev signed. Corresponding Member of the Academy of Sciences L. Feoktistov related that at this institute the development on power lasers, high-temperature plasma, and thermonuclear fusion with the use of lasers interested the people from Livermore. In all in 75 days they should prepare materials on seven themes, which are valued at \$25,000.

The Americans, let us say frankly, put a cheap price on the labor of our scientists who, as far as laser technologies are concerned, "are ahead of the entire planet." "But what can we do? Russian science is in a faint from hunger," Academician Mesyats countered.

And indeed, what? Recently the Academy of Sciences made a decision on the cutting back of the themes, which are being elaborated at its institutes, and on the discharge of a portion of the associates. The Institute of Spectroscopy, which is located in Troitsk near Moscow (its scientists should prepare for Livermore materials on three themes), did not receive budget assets for October and is not certain, as acting director O. Tumanov said, of the financing of its work for the entire third quarter.

Under these conditions for the Institute of Spectroscopy the \$25,000-30,000, which it will earn, is simply manna. And they do not consider at all that they made a bad bargain. With the Livermore money in Troitsk they have already planned to buy some materials for research and computers.

And still the fact that Livermore is for the most part a defense research center, at which many SDI components, including with the use of lasers, are being developed, is disturbing. And if you judge from the statement of B. De Gamo, chief legal consultant of the Livermore Laboratory, our American colleagues by no means intend to share their achievements. Moreover, the Department of Energy, which even Americans call "the little Pentagon," made available to Livermore the money for the Russian project.

To the honor of the people from Livermore, apparently, they also understand what their reputation and the reputation of their "sponsor" are, they tried in every way to reassure Russian scientists, stressing the exclusively civilian nature of their interests. They also have conversion, and it is entirely possible that the Americans decided to buy rather cheaply valuable information or at least a hint at a promising direction of thinking, which

True, the Americans hinted that they need the abstracts in order to determine the interesting directions, in which later they want to place with us commercial orders for development. This, undoubtedly, would enable us to preserve the scientific potential of the country. But about just what orders from the research center can it be a matter, if Livermore itself lives on orders, which they would hardly reject there? But this also worries our scientists: Given the complete absence of an interest in developments in Russia and Ukraine they are also glad that they will not sell just anywhere the results of their labor.

"The Americans are fine fellows: They go and buy ideas," Academician Mesyats appraised the operation of the people from Livermore. "The representatives of any Russian enterprise could do the same thing."

#### **'POISK' Science News Briefs 30 October-5 November 1992**

937A0046B Moscow POISK in Russian No 44 (182),  
30 Oct-5 Nov 92 p 2

[Article]

[Text] In Order Not To Disappear One by One

The conference of the presidents of the Academies of Sciences of Azerbaijan, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan, which was held in Bishkek, was devoted to the consolidation of the scientific potential and the coordination of the efforts of scientists of six republics of the Commonwealth.

The interacademy coordinating council approved the programs of joint research—basic and applied. Among the problems, which will be solved jointly, are the comprehensive use of deserts, the use of nontraditional sources of energy, the prediction of earthquakes and earthquakeproof construction, natural and natural—man-caused catastrophes in mountainous regions.

An appeal to the heads of the states and governments of Central Asia, Kazakhstan, and Azerbaijan to take steps for the preservation of academic science in the sovereign states was adopted. A former colleague, President of Kyrgyzstan Academician Askar Akayev, whose reception they attended after the completion of the working program of the conference, was the first to hear them.

[A POISK correspondent, Bishkek]

**They Counted and Shed a Few Tears**

The Minister of Ecology and Biological Resources of Kazakhstan has summarized the "inventory" of nuclear explosions on the territory of the republic.

It turned out that in addition to the Semipalatinsk Nuclear Test Range several others, at which tests of weapons of mass destruction were conducted, had operated. In various year at 27 sites 38 explosions, including surface and air explosions, were conducted. At present

Oblast, where 17 explosions were conducted at the Azgir Test Range, accounts for the largest number of tests. In the West Kazakhstan Ural Region "only" eight tests were conducted. Nuclear experiments were also conducted in Aktyubinsk, Akmolinsk, Mangistausskaya, and South Kazakhstan Oblasts.

Now experts are obtaining more accurate information on the yield of the explosions and the harm that was done to the health of people, nature, and the economy. The government is waiting for their recommendations in order to take urgent steps on the elimination of the consequences of the explosions.

[Svetlana Aleksandrova, Alma-Ata]

**Something New on the Great Patriotic War**

I offer the book of A.N. and L.A. Mertsalov, *Dovolno o voyne? (Enough About the War?)*. The attempts to rewrite history and the dispute about those to blame for the war and its guidance, Stalinism and Hitlerism, and their place in modern society are examined in it. The price is up to 50 rubles. C.O.D. order. 394036, Voronezh, Ulitsa 3-go Internatsionala, 7-A, Apartment 20, I.V. Shamrayev.

**Directions Instead of Roads**

A few days ago the Supreme Soviet of Ukraine adopted the decree "On the Priority Directions of the Development of Science and Technology." The document, as the deputies note, appeared opportunely and at the appropriate time. At the same time the members of parliament fear that the fate of a stillborn child awaits the decree, for it is a matter to it of everything and at the same time of nothing.

Void of a specific content, the document, in the opinion of the majority of members of parliament, resembles a hodgepodge made of politicized declarations and individual practical proposals.

[POISK Corresponding Raisa Chirva, Kiev]

**Closer to the Aral Sea**

A department of the Uzbek Agricultural Academy has been established in Nukus, the capital of Karakalpakstan. The goal is the coordination of scientific work, which is being performed in the autonomous republic, and the organization of a science center which is capable of conducting research with allowance for the ecological catastrophe that is connected with the drying up of the Aral Sea.

[POISK Correspondent Stanislav Fioletov, Tashkent]

**Will We Put Up at Parks?**

More than 70 unique models of equipment, technology, and materials, which were developed by scientists of Uzbekistan, were including in the catalog, which was put

together by specialists of Tashkent Technical University and was presented at an international conference for science parks.

Recently the university became the first higher educational institution in Uzbekistan, on the basis of which a technology park appeared. In a short time many interesting developments originated here.

The conference, which was held by the International Association of Science and Technology Parks of the Higher School, brought together a very representative complement of participants from the United States, Canada, China, Sweden, Great Britain, and many cities of Russia.

[POISK Correspondent Stanislav Fioletov, Tashkent]

#### Figure

Less than 50 percent of the associates of the Economics Department, by the admission of S. Shatalin, its academician secretary, have high enough skills for effective work under the present conditions.

#### Quotation

"Whoever makes progress in the sciences, but falls behind in morals, falls behind more than he makes progress."

A classical aphorism.

#### Fact

For the compiling of an estimate of the state scientific and technical program "The Human Genome" its own monetary unit—the gene—was invented. In prices of the end of 1991 the gene was equal to 40,000 rubles [R]. During the third quarter of 1992 it was equal to R213,000.

The draft of the law "On the Russian Academy of Sciences" was recalled from the Supreme Soviet of the Russian Federation—a letter in this regard was addressed from the academy to R. Khasbulatov. The working group, which prepared the draft under the supervision of Vice President of the RAS [Russian Academy of Sciences] V. Kudryavtsev, came to the conclusion of the inadvisability of passing the law. It was acknowledged that a presidential edict, decrees of the government, and the charter of the RAS are sufficient for the assurance of the activity of the RAS.

The eighth version of the draft of the edict of the president of Russia on the support of the RAS has been prepared within the walls of the academy. A large number of amendments and changes are appearing in the process of the search for the "golden mean"—it is necessary to balance academic appetites and the possibilities of the state treasury. Now the draft has been sent for reconciliation to the Ministry of Science, the Higher School, and Technical Policy, where, as they assume, it will be cut substantially.

During his recent trip to Italy President of the Russian Academy of Sciences Yu. Osipov signed with G. Salvini, president of the Italian National Academy de Lincea, an agreement on cooperation between the two academies of sciences. It envisages contacts at various levels—official visits, conferences, joint research, and the exchange of information.

Another agreement was signed by F. Kurilsky, general director of the National Center of Scientific Research of France, who had come to Moscow, and President of the RAS Yu. Osipov.

The parties came to an agreement on the conducting of scientific research by mixed collectives on the basis of contracts. Fact-finding trips and the assignment of young scientists are also proposed.

The agreement is also open to associates of other scientific organizations and higher educational institutions, who are enlisted by the RAS within the framework of these programs.

The annual volume of the exchange of scientists will come to 60 man-months for each of the parties. The duration of the stay of scientists will range from 15 days to two months.

The Frenchmen in Russia will receive R6,600 a month and a free room in a hotel, the Russians in France will receive 13,000 francs, from which they will pay independently for living in hotel.

The agreement was concluded for a period of three years.

In the last issue we published the decree of the Council of the Trade Union of Workers of the RAS, in which for the prevention of mass layoffs there is additionally proposed the introduction of a partial work week. At a recent meeting of the presidium of the RAS the academicians shared their opinions in this regard. Vice President A. Gonchar believes that this is "not a solution of the problem." While Academician A. Brekhovskikh expressed his opinion as follows: "This will cause the death of the RAS. The academy will be in the state of an unhealthy, but not yet dead person."

The International Applied Science Conference "Academic Mobility and the Problem of the Comparison of the Educational Systems of the Countries of the Eurasian Region" was held in Moscow. The conference was organized on the initiative of an international nongovernmental organization, the International Corporation of Graduates of Soviet Educational Institutions. The Interstate Association of Postgraduate Education, the Association of Foreign Students, the Association of Educational Structures, and the Revival of Enterprise Center also participated in its preparation and conducting. The conference participants set forth their views on the questions of the international recognition of levels and forms of education, the internationalization of the educational process, and the exchange of students, instructors, and scientific associates. It was deemed expedient

to establish an information center, which is accessible to all the former republics of the USSR, on problems of education and the mutual recognition of the documents which are issued upon graduation from some educational institutions or others. It is proposed to organize with the participation of state and public organizations (in the sovereign states, where for the present they do not yet exist) commissions or committees for the equivalence and international recognition of diplomas and educational certificates. Recommendations, which were addressed to the bodies of state power of the former republics of the USSR, were adopted in accordance with the results of the conference.

**'POISK' Science News Briefs 23-29 October 1992**

937A0046A Moscow POISK in Russian No 43 (181),  
23-29 Oct 92 p 2

[Article]

**[Text] Four Heads Are Better**

**A new, the fourth, department of the Academy of Sciences of the Republic of Kazakhstan—the East Kazakhstan Department—has opened in Ust-Kamenogorsk.**

East Kazakhstan, Pavlodar, and Semipalatinsk Oblasts have unique natural resources and developed industry. Former affiliates of leading scientific institutions of the former USSR are concentrated here, the region is well supplied with highly skilled scientific personnel. This also enabled the field meeting of the presidium of the Academy of Sciences to make the decision on the establishment here of an academic scientific center.

Under the conditions of a shortage of budget assets local organs of power have taken upon themselves the financing of the department. A regional science fund is being established by common efforts. Not by chance was the final document of the meeting of the presidium of the Academy of Sciences signed not only by academy president Umirzak Sultangazin, but also by the heads of the administrations of the three oblasts.

[Svetlana Aleksandrova, Ust-Kamenogorsk]

**A Great Big Secret...**

**When a year ago the Institute of Practical Psychology, the first on the territory of the former USSR, was established in Riga, many people were skeptical about this event. And then this October the second enrollment of first-year students began classes.** In addition to purely psychological subjects at the higher educational institution they are studying philosophy, theology, cultural studies, and rhetoric and at the same time are engaging intensively in shaping and aerobics.

The parents of students or sponsors pay for training at

the wage rates here are very high, for among the instructors there are leading scientists, including western scientists. The course of Professor Menegetti, a famous ontopsihologist, for example, is popular, the continuation of studies with him in Italy awaits the best students.

[POISK Correspondent Vladimir Steshenko, Riga]

**A Trap for Escapees**

**The Center of International Systems Designs has been established in Kiev on the initiative of Yegor Butsan, a professor of mathematics. The goal is to halt "the brain drain."**

Professor Butsan is convinced that the best places at foreign laboratories have been occupied for a long time and solidly. Even a very capable scientist, who pursued a better life, "there" is doomed to vegetation and disqualification in the search for a wage. Is it not better to provide such researchers with orders of western institutes and firms directly "at home"? The new center is also undertaking to accomplish this complicated task.

[POISK Correspondent Raisa Chirva, Kiev]

**Figure**

Fifteen of the 357 directors of scientific institutions of the RAS [Russian Academy of Sciences] are over the age of 70.

**Quotation**

"Here as before the socialist, Russian traditions are strong. The majority of associates of the academy, when speaking out against reductions, reason as follows: If we are going to sink, let us sink amicably, together, or else someone, God forbid, will jump out, while the others will go to the bottom."

Academician A. Spirin

**Fact**

The increase of the wage of scientists in Ukraine by twofold to threefold led to a sharp reduction of the drain of personnel from science.

**Perhaps, parliamentary hearings on the problem of science cities will be organized this year.**

A working group, which is engaged in the study of the possibilities of organizing science cities in Russia, has been set up under the subcommittee for science and new technologies of the Supreme Soviet of the Russian Federation. In the opinion of subcommittee chairman Yu. Ryzhov, the establishment of science cities is one of the means of saving science. Having attached science to industry, it will be possible to include it in the process of economic reform, which will also benefit industry, which without powerful scientific and technical support it is

already beginning to be implemented in Dubna, Chernogolovka, Troitsk, Novosibirsk, Nizhny Novgorod....

**In the presidium of the RAS Academician V. Zhurkin delivered the report "On the State and Prospects of Basic Research in the Area of World Economics and International Relations."**

The scientific activity of the institutes of the Problems of World Economics and International Relations Department of the RAS is concentrated around the basic research program "Means of World Development and the Revival of Russia," which is divided into eight specialized departmental programs.

Cooperation in the area of international research is being carried out with more than 200 foreign institutes, universities, and centers. The department is participating in 62 international projects, its associates are acting as experts of the United Nations, UNESCO, the United Nations Industrial Development Organization, the United Nations Conference on Trade and Development, the International Labor Organization, the SBSYe.... Three colleges are operating on the basis of institutes of the department.

V. Zhurkin told how the reorganization of subdivisions of the department is proceeding under the conditions of the reduction of financing. In nine months of this year 12 of the 84 divisions and sectors were dissolved, the specialization of 39 was changed. The number of associates was reduced by more than 350 (11.5 percent). One hundred thirty two associates (6.3 percent) are already working under contracts.

**An exchange of opinions on the problem of the remuneration of the labor of our scientists, who are participating in joint projects on the territory of Russia, took place in the presidium of the RAS.** Academician V. Zuyev cited cases of the obvious understatement by western partners of the value (in hard currency) of the labor of our scientists and the results of scientific research. As Vice President of the RAS A. Gonchar explained, foreigners are oriented toward the ruble equivalent and the amount of the wage in the Russian Federation. Many scientific institutions are addressing to the leadership of the RAS requests to permit their scientists to earn at least \$100 each a month, for in Russia such money is substantial support.

**The decree of the government of the Russian Federation "On the Joint Project of the Nauchnyy tsentr State Scientific and Technical Concern With the IBM Corporation (the United States)" has appeared.** The government endorsed the joint project on the production in Russia of personal computers with the IBM trademark. The computers will be sold on the territory of Russian for rubles at prices, which are formed with allowance for the lower expenditures on the production of similar computers in Russia than the expenditures of IBM in other countries.

components, which are used in their assembly, in that year will be increased to 40 percent. It is presumed that first of all the spheres of education and health care, organs of social protection, and the banking system will be provided with IBM computers.

**An agreement on scientific cooperation and the exchange of scientists has been signed between the Russian Academy of Sciences and the Korean Science and Technology Fund (Seoul).**

Joint research, bilateral symposiums, and seminars will be conducted within the framework of the agreement. The exchange of scientific associates and information on research and the preparation and publication of joint works and scientific results are envisaged.

The agreement was concluded for a period of five years.

**The seminar "Current Trends of the Development of the Higher School, the Training and Advanced Training of Personnel: World Experience, International Cooperation" will open on 30 October.** The seminar is being organized by the Committee for the Higher School of the Ministry of Science, the Higher School, and Technical Policy of the Russian Federation and the Fund for International University Cooperation.

The task, which the seminar should help to accomplish, is the formation of modern concepts, long-range programs, and effective models of the higher school and the system of the advanced training of personnel with the use of world experience.

According to the idea of the organizers, the results of the work of the seminar and its recommendations should contribute to the integration of our higher school in the world educational system.

The seminar is open to all specialists who are interested in the scientific problems and practical work of the higher school and the system of the advanced training of personnel.

The meetings of the seminar will be held on the last Friday of every month in the meeting hall of the Committee for the Higher School on Ulitsa Shabolovka, Building 33 (the Shabolovskaya Metro Station). The start is at 1500.

Telephone number: 369-67-73, fax number: 369-58-13.

**'POISK' Science News Briefs 16-22 October 1992**  
937A0045B Moscow POISK in Russian No 42 (180),  
16-22 Oct 92 p 2

[Article]

[Text] It Is a Frightening Word, "Nostrification"

Without waiting for the passage of the law on scientific

that is, the review and reapproval of scientific degrees which were awarded before the finding of independence.

The first victims already exist. For the most part they are humanities experts. It is not only that their works have a "Soviet emphasis." On the expert commission there is a majority of representatives of the natural sciences, who, in giving a verdict, frequently are guided not by objective criteria, which is very difficult to nonspecialists, but by subjective indicators. For example: "There are too many quotations of leaders of the Communist Party." But, as is known, the defense of the dissertations both of "lyric poets" and of "physicists" did not get by without such curtsies.

[POISK Correspondent Vladimir Steshenko]

#### **It Was Goodbye Both to Visas and to Cruises**

Several associates of the Administration of International Relations of the Academy of Sciences of Ukraine (their names thus far have not been given) simultaneously found themselves in the role of...people under investigation. They are charged with official forgery, which was discovered during an operation of the Ukrainian special services on putting a stop for crimes in the sphere of foreign relations. It turned out that associates of the department of foreign business trips of the Academy of Sciences had supplied citizens, who have nothing to do with the academy, with exit documents. Of course, these were "indispensable people."

Criminal proceedings have been initiated. The investigation has begun.

[POISK Correspondent Raisa Chirva, Kiev]

#### **Figure**

The Russian Academy of Sciences, in the opinion of Academician L. Keldysh, will need 1 trillion rubles in order to work at the world level.

#### **Quotation**

"I once looked in on an economics lecture at one of our higher educational institutions. And it took me enormous efforts to keep from fainting—the level of knowledge of the students considerably exceeded the level of knowledge of the professor. This, I think, is not an isolated case."

Academician Stanislav Shatalin

#### **Fact**

The four laws on intellectual property, which were passed by the Supreme Soviet of the Russian Federation, have gone all the stages of conciliation. In the near future the laws will be published.

The draft of a copyright, on which a working group of the Committee for Science and Public Education of the

ready. Now the draft is being studied in parliamentary committees and commissions.

Addressing a session of the Supreme Soviet, Chairman of the Committee for Science and Public Education V. Shorin proposed to extend to 31 December 1992 the deadline of the fulfillment by the government of several provisions of the decree of the Supreme Soviet, "On the Procedure of Putting the Law of the Russian Federation 'On Education' Into Effect," and to make the corresponding changes in this decree.

In the presidium of the Russian Academy of Sciences Academician A. Bayev delivered the scientific report "The Human Genome Is the Path to Biology of the 21st Century."

Responding to the questions of members of the presidium about what the successes of our scientists in this area are like against the background of world achievements, A. Bayev replied: "Rather modest. The Americans began earlier and are investing considerably more assets in this program. We have a considerable intellectual potential. But there have also been losses here. For example, about 50 people have already left for the West from the Institute of Molecular Biology, which is participating in the program."

The nongovernmental organizations: the International Academy of the Book and Book Art, as well as the Galaktika International Publishing House, which were established by the fund "For the Survival and Development of Mankind," were recognized as legal persons.

A directive of the president of the Russian Federation himself was needed for this. The new status of the organizations, as the president sees it, should "stimulate and intensify the work on the restoration of the printed and manuscript heritage, on the assurance of international book exchange, and on the improvement of information and scientific cooperation in the area of the facsimile publication of ancient manuscripts and books."

At the State Polytechnical Museum the first meeting of the Methods Council of the Museum for Education, which is called upon to promote the formation of the State Polytechnical Museum as a center of education and enlightenment, was held. At the meeting of the council several directions of subsequent work were specified: with school children and young people (museum pedagogy), with specialists (various seminars and courses), and with the audience at large.

#### **'POISK' Science News Briefs 3-9 October 1992**

937A0041A Moscow POISK in Russian No 41 (179),  
3-9 Oct 92 p 2

[Article]

This summer 130 scientific research vessels of the Russian Academy of Sciences were laid up in ports due to the lack of funds.

#### Quotation

"Science is not at all an egotistic amusement. The lucky people, who can devote themselves to scientific problems, should themselves be the first to put their knowledge to the service of mankind."

Karl Marx

#### Fact

Experts of the RAS [Russian Academy of Sciences] are preparing the draft of the next edict of the president of Russia on the material support of the academy. At the basis of the draft are the petitions of academic subdivisions, which are addressed earlier to the president and the government.

Academician S. Shatalin delivered in the presidium of the RAS the report "On the State of Economic Science." The conversation about the state of science quickly developed into a discussion on the situation in the economy. To the question of the policy of Ye. Gaydar erroneous? Academician L. ...kin replied: "No, there are no mistakes. If the destruction of domestic industry is being posed as the task, everything is being done without error."

In the last issue we reported on the plan of the financing of the RAS for the fourth quarter. Here are some data on the plan of the financing of the departments of the academy. There should receive the most of all: the General Physics and Astronomy Department—433.8 million rubles [R], the General and Technical Chemistry Department—R236.5 million. There are to spend less than the others: the History Department R38.6 million, the Literature and Language Department—R29.6 million, and the Mathematics Department—R11.9 million.

The joint council of the RAS for the study of the Arctic and the Antarctic is being organized under the presidium of the RAS. It will replace the interdepartmental commissions for the study of the Arctic and the Antarctic, which operated under the presidium of the USSR Academy of Science.

One of the provisions of the decree of the presidium of the Academy of Sciences "On Salary Increments for Executives of Scientific Institutions of the Russian Academy of Sciences" has been changed. It was decided to recommend to the departments of the RAS to establish the salary increments for executives of scientific institutions in the amount of up to 50 percent, regardless of the average amount of such salary increments for all associates.

The Ministry of Science, the Higher School, and Technical Policy of Russia jointly with a number of other ministries will engage in the search for sources of the

and the introduction of new technologies for the production of ecologically clean agricultural products. This duty was assigned to the ministry by the decree of the government "On the Development of New Technologies and the Devising of Hardware for Alternative Agriculture."

The government of the Russian Federation approved the statute on the procedure of monitoring the export from Russia of chemicals and technologies, which have a peacetime purpose, but can be used in developing chemical weapons.

The licensing of the export of the dual-application chemicals and technologies, which got onto the special list, is mandatory for all subjects of economic activity and is carried out with respect to all types of foreign economic activity, including scientific and technical relations.

The independent "Solyaris" Scientific Information Agency has been established. It will engage in the gathering and dissemination of rapid information on the scientific life of Russia and will publish a bulletin of scientific news, in which reports on the most significant results of the research of institutions of the RAS, higher educational institutions, and other scientific institutions will be included.

The telephone numbers of the agency are: 238-22-34, 238-27-43. The fax number is: 237-06-22.

#### Moscow Conference Studies German Science Reorganization

937A0045A Moscow RADIKAL in Russian No 39 (96), Oct 92 p 11

[Article by Eduard Mirskiy under the rubric "Reform in Science": "But It Is Working in Their Country! On the Russian-German Seminar 'The Experience of Reforming the Scientific and Technical Sphere of the New Lands of Germany'"—first three paragraphs are RADIKAL introduction]

[Text] On 1-3 October a bilateral seminar, at which staff members of departments of the FRG (the Ministry for Economics, Research, and Technology, the Federal Council for Science, the Ministry for Science and Culture of Brandenburg Land) reported on the work on the reorganization of science in the new lands of the FRG for the purpose of its integration in the socioeconomic system of united Germany, was held in Moscow. On the Russian side the staff of the government and the Ministry of Science, the Higher School, and Technical Policy of Russia, the Analytical Center for Problems of Socioeconomic and Scientific and Technical Development of the Russian Academy of Sciences, and the Academy of the National Economy acted as the organizers of the seminar.

Along with purely information tasks the analysis of the

and the possibility of using German experience in the work on its transformation was the main goal of the seminar.

The reports concerned the key stage of reform, which concluded by 31 December 1992 with the complete organizational transformation of science of the former GDR.

First about one unexpected impression.

Officials, who dealt directly with reorganization at different levels and in different spheres, were the speakers on the German side. But their communications resembled least of all reports about achieved successes, although such successes exist and they are dear to them. This was an agitated account of enthusiastic people, who had not yet cooled down from the enormous load of the most difficult, at times dramatic decisions on the fates of thousands of people, from constant criticism and arguments about the effectiveness of the steps being recommended and implemented by them. Finally, this was an attempt of the participants, who psychologically are still within the process, to glance back at it and to understand what they had done. In short, the officials appears in a slightly unusual role for us.

The materials of the seminar are voluminous and still, I hope, will be studied in detail. They deserve that. Now, without delay, I would like to discuss just one problem—how the German specialists and officials succeeded in proceeding from talk about reform to specific work, which to this day has not happened in our country, and in carrying out this reform, even though with certain costs and undesirable consequences, which the reformers themselves do not deny.

The speakers regard as the first condition of the accomplishment of the restructuring of science of the former GDR the efficient political decisions, which were made by the highest organs of power of Germany and were recorded in the unification treaty and in other documents. There the basic goals and the scale of the problem were named, the period of its solution was established, responsibility was distributed among the participants in the work, and the amounts and forms of its financial support were specified. The concepts, the plans, the development of specific mechanisms (the stage which we simply cannot get past)—the performers should have done all this within the framework of the posed task, which was rigidly set and limited in time. These performers represented the basic parties to the process: the federal government, the governments of all of Germany. All the parties were united in a supreme expert and consultative body—the Council for Science of the FRG, the composition of the commissions of which was enlarged by means of representatives of the new lands. The elaboration of recommendations, the coordination of the work, and the prompt evaluation of the interme-

Organizational reform was regarded as one of the necessary steps for the achievement of the main goal—the establishment in the new lands of Germany of modern science and a higher school, which are capable of ensuring a world level of research (basic science) and of supporting with personnel and innovations the development of competitive sectors of industry and the economy (applied research and development and the higher school). The latter task was particularly important for the regional level as one of the primary conditions of the socioeconomic integration of the new lands.

The first steps on reorganization revealed two fundamental difficulties. The first consisted in the fact that in the system of state and economic administration of the GDR, which was centralized to the utmost, the problem of "center-regions" interaction was altogether unknown, at least in the sphere of scientific and technical policy. The second one consisted in the discovered complete incapacity of the administrative structures, which were inherited from the GDR (the Ministry for Research, the leadership of the GDR Academy of Sciences, the Building Academy, and the Academy of Agricultural Sciences, the main science departments of sectorial ministries, and so forth), for any effective efforts on the organizational restructuring of their activity. The changes proposed by these structures were of a purely cosmetic nature and in no way corresponded to the scale of the tasks and to the goals.

The old administrative structures, which have proven their ineffectiveness, were dissolved, while special structures with a strictly limited term of activity were established for the support of research institutions during the period of restructuring and for its accomplishment. It is necessary to note that it was a matter namely of changing the system of administration, inasmuch as the new bodies to a significant extent were manned with specialists from institutes of the former GDR, who, however, were now working in new organizational surroundings. In practice in one year it was necessary to carry out the certification of personnel and research institutions (subdivisions), to make a decision on the specific forms of reorganization with allowance for the interests of all the parties concerned, and, finally, to implement these decisions.

The work consisted in the preparation and implementation of an entire package of measures which included:

- the abolition of the system of the centralized planning of the support of scientific activity and its replacement with the expert evaluation of the proposals of scientists;
- the establishment in place of old scientific institutions of new ones (institutes of the M. Planck Society, applied institutes of various sizes and forms) or affiliates of institutes which exist in the old lands of Germany;
- the support and reorganization of research centers

- the formation of a new infrastructure and the integration of scientists in the nationwide system of scientific communication, and at the same time in the world scientific community;
- the determination of the size and nature of new institutions during the initial period;
- the strengthening of the scientific potential of the higher school by means of researchers from the former Academy of Sciences;
- large-scale measures of social protection for the facilitation of the change of the place of work, the change of specialization, and the creation of new workplaces (at the former Academy of Sciences alone this was required for 4,500 people, that is, about 25 percent of its staff at the moment of reorganization); this required the coordinated efforts of a number of federal and land departments.

The organizers clearly visualized: Only world-level research can prove to be viable in an open society. Neither science nor the state nor, in the long run, its participants need other research. The most talented of them will immediately change their place of work, having transferred to other institutes in the country or abroad. Weak institutes will simply cease to exist, first for the scientific community, and then physically.

A Constituent Committee, to which specialists from both parts of the country and foreign scientists belonged, was set up for the determination of the structure and personnel of each new scientific institution. In those instances, when old institutions were retained, not less than 10 percent of their staff was replaced—wherever possible by the attraction of researchers from the old lands or from abroad. Special attention was devoted to the concentration of scientific efforts in individual directions of research. In a number of instances, when the level of scientific organizations of the former GDR proved to be higher, a decision was made on the curtailment of the state financing of the corresponding institutions in West Germany.

The higher school experienced even more significant structural changes. In the GDR the system of specialized technical and agricultural educational institutions and so forth was highly developed following the Soviet model. The overall level of training at the overwhelming majority of these institutions and universities was extremely low, as were the changes of graduates on the open skilled labor market. The widely declared link between research institutes and higher educational institutions in practice was absent. Moreover, the centralized system formed the network of higher educational institutions practically without regard for the interests and needs of the regions, in which these higher educational institutions were located.

Meanwhile according to tradition in the FRG higher

necessary supports with special-purpose appropriations. Incidentally, the property of the dissolved or reduced scientific institutions is also being transferred to the jurisdiction of the regional governments on the condition of their transfer for use for the former purpose. This is entirely reasonable, inasmuch as precisely in the lands the situation on the labor market and, consequently, the need for the material support of new workplaces change as a result of any restructuring.

According to the reorganization plans 10 universities of the full type (including technical universities), instruction at which is carried out according to a complete curriculum, including graduate studies and doctoral studies, have been retained in the new lands. These universities have been substantially reinforced materially, including the financing of an advanced research base. As was already said, the personnel potential of university research has been strengthened significantly.

On the basis of a number of technical higher educational institutions 20 specialized educational institutions, which provide practically oriented training, have been established. If you judge by our standards, the level of training at these institutions is between a technical higher educational institution and a *tekhnikum*. Their students after secondary school receive three years of theoretical training, which concludes with a year of practical work in the chosen specialty. The professors and lecturers of these educational institutions also acquire the right to teach only if they have five years of practical experience in production, a free profession, or business.

It is quite natural that the specific set of specialties at each institution of this type is formed with allowance made for the conditions on the local labor market and the prospects of the socioeconomic development of the region.

Particular attention when reorganizing the higher school, just as science as a whole, is being devoted to the problems of the social sciences, where not only students, but, as experience shows, to an even greater degree instructors and scientists need an elementary education in the problems of life in a free state and behavior in a market economy. Here are two examples, which were cited at the seminar and, in my opinion, are very interesting for our readers.

The FRG Ministry for Research and Technology annually receives bundles of letters from people, who require the support of their discoveries and inventions in connection with their importance for the economy and/or other needs of the country. These people cannot comprehend that the evaluation of discoveries and inventions, just as their introduction and duplication in a free society, is not a function of any department, but comes entirely under the jurisdiction of the scientific community, entrepreneurs, or various types of foundations.

country the request to indicate precisely which directions of chemical research are important for firms of the FRG. They could not comprehend that the government is not interested in this question. It is the business of firms themselves on what they want to spend money and in what promising area they are willing to take a risk. Only scientists themselves can influence this choice, having cited the corresponding arguments for the representatives of business.

Judging from the reports, the restructuring of the applied sphere of research and development presents the greatest difficulties, although the organizational aspect of this process was completed by 1 January 1992. However, economic weakness, backwardness, and accordingly the lack of receptivity to new technologies, which involve large initial investments, on the one hand, and the lack of preparation of researchers to work under the conditions of a market economy, on the other, are creating significant problems in the development of industrial research in the new lands. Vigorous efforts are being made to correct the situation. Special technology transfer centers, the goal of which is to attract small and medium-size entrepreneurs, are being established at higher educational institutions, a large number of exhibitions and demonstrations of the advantage of science-intensive works are being organized, much is being done for the education of people and for "the razing of the Berlin wall in the consciousness." But only time will show how effective all these steps will prove to be.

How is this experience useful for us, with allowance for the obvious differences of our country in the scale of work, in the incomparably fewer opportunities for the financial support of reforms in science, just as in many other essential characteristics? It is possible to say that the experiment, which we simply cannot make up our mind to conduct in our country, in the neighboring country was conducted, so to speak, under the most smooth conditions, with alternative solutions and with the opportunity to compare alternative strategies and to counter quickly undesirable effects, by shifting for this large amounts of assets.

We received from our colleagues already prepared results. In a number of key points these results are unambiguous.

New structures, in which all the concerned parties are represented: science (scientists, but not scientific chiefs), the center and the regions (chiefs, but not scientists), are needed for the reform of science. The network of research institutions of basic science in an open society is formed as a part of the system of the international division of labor. The world level of research is the only possible one, others simply do not exist, just as (let us recall Bulgakov) sturgeon of second freshness does not exist.

channeled into the establishment of a communications system which enables full-fledged joining of the world community.

And a final thing. The transition period should become actually a period, and not turn into a way of life. In the FRG this period is over. This does not mean that all the problems have been solved or that the work has been completed. This means the redistribution of responsibility between the self-administered scientific system and the state institutions that support it.

How much time and how many sacrifices will we need in order to accept these simple truths and the results of the most difficult work, which our colleagues have already done not only for themselves, but also for us?

#### **'POISK' Science News Briefs 19-25 September 1992**

937A0035A Moscow *POISK* in Russian No 39 (177), 19-25 Sep 92 p 2

[Article]

[Text] Figure

The spending on education in the United States during the 1992/1993 school year will come to \$445 billion. This is 5 percent more than last year. Of this sum \$363 billion are intended for free secondary schools, colleges, and universities, \$82 billion are intended for private ones.

#### **Quotation**

"The attempt at any price to retain all 160,000 people, who work in the system of the Academy of Sciences, will merely have the result that the most creative and promising scientists, even the ones who are prepared to put up with wretched living conditions, but want to have the conditions for productive work, will leave this system, and a mediocre mass will remain...."

Academician of the RAS [Russian Academy of Sciences] M. Styrikovich

#### **Fact**

Having had a shortfall in September of 4 billion rubles in its budget, the Ministry of Science, the Higher School, and Technical Policy left the budget of the RAS inviolable, having reduced in so doing the financing of other directions by 30-70 percent.

**A discussion of the draft of the edict of the president of the Russian Federation "On State Science Centers" took place in the presidium of the RAS.** Minister of Science, the Higher School, and Technical Policy B. Saltykov and V. Shorin, chairman of the Committee for Science and Public Education, attended the meeting.

In the words of the minister, the plan of the establish-

"lies in the direction of its reform." "Perhaps, this is not the best way," B. Saltykov noted. "The question for the present remains open."

Various proposals were heard with regard to what role the RAS should play in this process. "It should carry out scientific supervision," Academician L. Keldysh believes. "It should withdraw from this process"—such is the opinion of Academician Yu. Osipyan.

**Only a week after the discussion of the above-indicated draft the presidium of the RAS worked out a unified position on this question.** It was decided "to treat favorably the idea of the establishment in individual cases of state science centers as a measure of support of large established scientific and technical complexes." Here to organize them "by separate decisions" of the government of the Russian Federation on the representation of the Ministry of Science, the Higher School, and Technical Policy and the RAS jointly with interested ministries.

**The presidium of the RAS at its meeting considered the question of the advisability of the registration of scientific discoveries.** In May 1991 the presidium of the academy discussed this question and deemed the preservation of the institution of the registration and legal protection of discoveries to be unnecessary. On the instructions of the government of Russia a follow-up discussion of this question, which revealed a difference of opinions among scientists, took place in the departments of the RAS.

The supporters of the renewal of the practice of registering discoveries, which had existed in the former USSR since 1947, believe that the abandonment of the state examination, which establishes the authenticity of a discovery, will lead to the loss of an objective criterion of the results of basic research.

Other scientists, who spoke against the registration of discoveries, consider that the existing system does not ensure an objective evaluation of scientific achievements.

Foreign practical experience testifies that the defense of scientific results and the recording of priority are accomplished by the norms of patent law and by a developed system of databases on scientific information. This makes it possible to save considerable assets and to eliminate the additional expenditures on state registration.

The presidium of the RAS made the decision that the state registration of discoveries is inexpedient.

**The new building of the International Mathematics Institute imeni Leonardo Euler, which was established three years ago, has been opened in St. Petersburg.** President of the RAS Academician Yu. Osipov, scientists from Sweden, Germany, Finland, and Japan, as well as math-

Academician Lyudvig Faddeyev, director of the International Mathematics Institute imeni L. Euler, announced the scientific program of the institute, which should become a place of scientific work of foreign and domestic scientists in all areas of mathematics and its applications.

**We continue to acquaint you with the changes in the tax system of the Russian Federation, which concern science and education.** The corresponding article of the law "On the Tax on the Profit" in the new wording looks as follows. "When computing the tax...the taxable profit in case of actually made expenditures and outlays at the expense of the profit, which is left at the disposal of the enterprise, is reduced by the amounts, which are channeled by higher educational institutions and their subdivisions and structural units into the development of educational and scientific activity and the strengthening of their material, technical, and social base."

**Massey University (New Zealand) announces competition for the position of professor of psychology.**

The school of psychology of the university is the best known and largest center for the training of psychologists in New Zealand. There are 40 instructors in the staff, 600 students are being educated, correspondence education is conducted.

The school is opening a vacancy for the position of second professor. For the first time an attempt is being made to enlist in the competition highly skilled psychologists from Eastern Europe. Specialization in the following areas of psychology is preferred: applied social psychology, industrial psychology, commercial psychology, employment psychology, and medical (or clinical) psychology. The candidate should be fluent in English.

The person who has taken this position will take part in administrative work and in the immediate future will have a change to head the school.

The competition commission of Massey University will consider your candidacy, if by 10 October you send information about yourself on diskettes for the IBM PC (MS DOS) to the address: 103009, Moscow, Ulitsa Mokhovaya, 8, Building 5, the Psychology Faculty of Moscow State University, the Chair of General Psychology, A. Voyskunskiy.

**The East European Symposium on Biological Nitrogen Fixation, which is being held for the first time in Russia, is concluding its work in Saratov.** Representatives of 20 countries of the world came to the eighth symposium. They are discussing the problems of the use of biological

**'POISK' Science News Briefs 12-18 September 1992**

937A0032B Moscow POISK in Russian No 38 (176),  
12-18 Sep 92 p 2

[Article]

[Text] **Friendship by Friendship...** (Larisa Sayenko, Minsk)

According to the data of the Republic Center for the Prevention and Control of AIDS, today 79 people infected with HIV have been registered in Byelarus. The dynamics of the growth as compared with last year is 100 percent. The number of carriers of the virus in the states of the CIS are: in Russian—447 people infected with HIV, in Ukraine—288 (more than half are foreigners), in Estonia—21, in Latvia—20, and in Lithuania—12.

In recent times among Byelarusians close friendly and commercial relations have been entered into with Poland. Let us note: In the neighboring state there are nearly fourfold more carriers of the AIDS virus than in Russia.

**Figure**

There are 23,000 too few teachers at the schools of Russia.

**Quotation**

"Now there will not be found in Russia a single owner who would privatize institutions of basic science, without having changed here, of course, their specialization."

Minister of Science, the Higher School, and Technical Policy B. Saltykov

**Fact**

The Russian-American Pedagogical University has been established in Magadan.

**A meeting of the collegium of the Ministry of Science, the Higher School, and Technical Policy, at which the progress of the fulfillment of the work on the state scientific and technical program of Russia "The Human Genome" was discussed, has been held.** This is one of the "episodes" of the inventory of state scientific and technical programs of Russia, which is now being conducted in the ministry and as a result of which their number, perhaps, will be reduced.

The goal of the program is the complete decoding of the molecular structure of the human genome (the complement of its genes). Now 173 groups of researchers, which received grants on a competitive basis, as well as about 70 organizations and enterprises of Russia are working on its seven projects.

A number of most important results, among which it is

case of a malignant neoplasm in man, have been obtained during the time of the fulfillment of the work on this state scientific and technical program of Russia.

It was decided to devote even closer attention to the program.

**In the last issue we reported that in the recently passed law "On the Making of Changes and Additions in the Tax System of Russia" there are articles which concern science and education. We continue to inform you about these changes.**

Now in accordance with the law "On the Tax on the Property of Enterprises" the property of scientific research institutions, enterprises, and organizations of the Russian Academy of Sciences, the Russian Academy of Medical Sciences, the Russian Academy of Agricultural Sciences, the Russian Academy of Education, state science centers and scientific research institutions, ministries, and departments in accordance with a list, which is approved by the government of the Russian Federation, is not assessed this tax.

**The provisions of the law "On the Income Tax From Natural Persons" after the publication of the law "On the Making of Changes and Additions in the Tax System of Russia" looks as follows.**

The income not liable to taxation is: the amounts of income of people, who are students of the daytime form of training of higher educational institutions, vocational and technical schools, and secondary specialized educational institutions, students of religious educational institutions, graduate students, educational resident physicians and interns, which is derived in connection with the educational production process, as well as for work, which is performed during the vacation period within student detachments, on the harvesting of agricultural crops and the production of fodders. The amounts of stipends, "which are paid to undergraduates and graduate students of higher educational institutions, students of secondary specialized educational institutions and vocational and technical schools, and students of religious educational institutions by these institutions or are established by philanthropic foundations" are also not liable to taxation.

**A conference entitled "Productivity and the Market" will be held from 21 to 25 September in Moscow, at the Uzkoye Hotel of the Russian Academy of Sciences.** The institutors of the conference are the Russian Union of Industrialists-Entrepreneurs, the All-Russian Scientific Research Institute of Systems Research, and the fund for the promotion of privatization and foreign investments. The American national center for problems of productivity and the International Labor Organization will take part in its work.

**The 43d session of the UNESCO International Conference on Education has begun in Geneva.** The conference meets every two years and is the largest forum in the

opened is devoted to the theme "The Contribution of Education to the Development of Culture." Executives of the Committee for the Higher School of the Ministry of Science, the Higher School, and Technical Policy and the Ministry of Education of Russia are participating in it.

Russia participated in the work of the International Conference on Education starting in 1954. From 1960 to 1990 the unified USSR appeared in place of it.

On 20 September the first broadcast of Russian Television from the series "Boomerang-3" was aired. The theme, to which the entire series under this name is devoted, is "Education and Society." Academician Stanislav Shatalin and Oleg Tabakov, Galina Starovoytova and Yuriy Afanasyev, Vice Premier of Russia Minister Boris Saltykov, and executives of the Ministry of Education will discuss their interaction. State and nonstate educational institutions, the development of national educational systems, and new generations of textbooks will be discussed.

Seminars under the general title "The Path to Oneself," which Vladimir Shakhidzhanyan, a instructor of the journalism faculty and the author of such books as *Solo dlya pishushchey mashiny* (*A Solo for Typewriter*) and *1001 voprosy pro eto* (*1,001 Questions About This*) will conduct, will be held starting in the middle of September at the House of Culture of the Moscow Aviation Institute.

"Who else, if not we, the instructors of higher educational institutions, should help students to understand themselves and to realize their certain potential," V. Shakhidzhanyan believes. The seminars will be held on Wednesdays in the form of conversations. For "the particularly needed" admission is free.

#### **'POISK' Science News Briefs 5-11 September 1992**

937A0029A Moscow POISK in Russian No 37 (175), 5-11 Sep 92 p 2

[Briefs]

[Text]

#### **Wait For Me, Alexandria!**

The Republic of Kazakhstan and the Arab Republic of Egypt have reached an agreement on cooperation in the area of science and education. The ministers of education of the two countries, as well as leaders of the Academy of Sciences of Kazakhstan and the Academy of Scientific Research and Technology of Egypt signed the corresponding documents in Alma-Ata.

Already, many Kazakh students are starting the current school year within the walls of Alexandria University, and Egyptians are coming to Alma-Ata to study the Kazakh and Russian languages. The exchange of school-

Scientists of the two countries will help each other in developing state scientific and technical policy and in conducting joint research work in fields such as metallurgy, agriculture, biology, astronomy, genetic engineering, and information sciences. [By Svetlana Aleksandrova, Alma Ata]

#### **Rendezvous on the Roof of the World**

**Seismologists from the U.S. and Tadjikistan signed an agreement to cooperate on the "Earthquake Prediction" program.**

Joint work by the scientists started 20 years ago. Over this time, the Institute of Seismology and Seismically Stable Construction of the Academy of Sciences of Tadjikistan, in cooperation with other academic institutions of the former USSR, published 12 volumes summarizing the experience of research on the topic of earthquake prediction, which reflected the results of the Tadjik-American research. In the next year, scientists from the two countries intend to begin experiments in the Pamirs. [Our correspondent, Dushanbe]

#### **On Undeserved Vacation**

Under the conditions of the financial crisis, in which whole laboratories are being sent on compulsory vacations, the presidium of the Belorussian Academy of Sciences has recommended that the employees of its own apparatus voluntarily go on unpaid vacations. This will make it possible to save 350,000 rubles in two weeks, which will be used for the needs of science. Incidentally, the academy "acquired" more than 60,000 man-days were "acquired" in the first half year.

Figure: This year the production of educational equipment for schools was reduced by 50 percent.

Quotation: "Science is the best way to make the human spirit heroic."—Dzh. Bruno

Fact: The Ministry of Education has created an Innovation Fund for developing education in the Russian Federation, the goal of which is to finance research, design, and application work in education.

An interdepartmental work group formed on the government's order has prepared a draft edict of the RF President "On Russian Federation State Scientific Centers." It defines the organizational and legal form of GHTs [State Scientific Centers] and their status, and stipulates measures to support the operation of these centers. According to the concept of the draft's authors, a system of state scientific centers should be created in Russia.

The draft was sent to interested ministries for coordination and presented to the RAN vice-presidents, academician-secretaries, and presidium members for development of a position.

The initial reaction of RAN academicians to the appear-

**The organizational and legal bases, the status of GHTs, and many other clauses in the draft spark objections.**

They are afraid that as a result a network of privileged scientific centers under the control of the Ministry of Science will be created. The opinion is voiced that this action will lead to the rapid collapse of academy structures.

The draft's attempt to compare the average salary in a GHTs to the salary in industry—and it should be higher than the "industrial" by a factor of 2 here—is also deemed unsuccessful.

The draft will be discussed at one of the next meetings of the RAN Presidium.

**B. Saltykov, vice prime minister of the RF government, Minister of Science, Higher Education, and Technical Policy, and Professor K. Gyur yuz, President of the Turkish Scientific and Technical Research Organization, signed an intergovernmental agreement in Moscow on scientific and technical cooperation between the two countries.**

The agreement stipulates the participation of Russia and Turkey in joint basic research work, in the creation of special funds, in industrial research, and in the development of new technologies and designs.

Basic attention will be devoted to mathematics, physics, astronomy, biotechnology, geophysics, new materials, the conversion of defense enterprises, agriculture...

The plans include the organization of joint collectives, technological exchanges and technical parks, and commercial companies and structures, ensuring the most rapid assimilation and implementation of new technologies and developments.

**President B. Yeltsin recently signed the law "On Introduction of Changes and Amendments to the Tax System of Russia."** Now the law "On Payment for Land" states: VUZs, scientific research institutions, enterprises and organizations of the RAN, the Russian Academy of Medical Sciences, the Russian Academy of Agricultural Sciences, the Russian Academy of Education, and the state scientific centers, VUZs, and NIU [expansion unknown] of ministries and departments of the Russian Federation, which are on government-approved list, are entirely released from payment of the land tax.

**After release of the above-mentioned law, there were changes in articles of the law "On the Value-Added Tax" which concern science and education.** The following are now released from this tax: "the output of the private production of individual public catering enterprises (student and school cafeterias, cafeterias of other educational institutions) and services in the sphere of education related to the educational-production and upbringing process," NIOKR performed at the expense of the state budget as well as the resources of the Russian

ministries, departments, and associations formed for these purposes in accordance with legislation, and NIOKR performed by educational institutions on the basis of economic agreements are now also released from the NDS [Value-Added Tax].

**The international seminar "Theory and Practice of Managing Human Resources under Conditions of a Socially Oriented Market Economy" opened in Moscow.** It was organized by the International Bureau of Labor (Geneva), the Minnauki [Ministry of Science] Committee on Higher Education, and the RF Ministry of Labor. A number of experts from the FRG, Austria, and Switzerland and from the Moscow State Academy of Management and the Russian Economic Academy are participating in the seminar.

Lectures and discussions will be held for 10 days at MISI [expansion unknown]. The organizers have defined the seminar goals as: the study of potential possibilities of methods for personnel management in enterprises, as well as in higher educational institutions, and the search for ways to improve working conditions and labor relations in the framework of national labor legislation and international labor norms.

### **Opportunities for Foreign Grants, Sabbaticals Published**

927A0281A *Moscow POISK in Russian No 31 (169).*  
25-31 Jul 92 p 3

[Unattributed article: "How Would You Like To Go to Europe?"]

[Text] **POISK continues to publish information on stipends which scientists of the CIS countries may receive for study or work abroad.**

The Alexander von Humboldt Fund was founded in Berlin in 1860 in memory of the outstanding scientist Alexander von Humboldt. Until 1923, it financed the research of German scientists abroad. The fund was re-established on 10 December 1953 as an independent private fund and was registered in Bad Godesberg (near Bonn).

In November 1989, physicist Reimar Lust was appointed president of the Humboldt Fund.

The fund annually awards about 600 research subsidies to highly qualified foreign scientists of up to 40 years of age who have the degree of doctor (candidate) of sciences, which enable them to conduct lengthy (one-two year) research in Germany. Applications are examined by the Central Selection Committee, chaired by the president of the German Research Society and consisting of 100 prominent German scientists from all disciplines. There are no restrictions based on country or discipline.

research subsidies. Applications for the subsidy may be submitted at any time. Examination of the applications takes several months. The selection committee meets thrice yearly, usually in March, July, and November. It is recommended that applications be submitted five months before a meeting.

Specialists in the natural and engineering sciences should demonstrate a satisfactory knowledge of the English language. Those in the humanities must know German well. If necessary, the fund may finance language study in Germany both for the researcher, as well as for his spouse.

The size of the monthly research subsidy varies from 3,000 to 3,800 DM deutschmarks (without tax), depending on age and scientific qualifications. In addition, travel is paid for (on the condition that the scientist's country does not do this), grants for those who are married and financial assistance for children are allocated, and participation in scientific conferences, etc. is paid for. The subsidies are awarded for a year at first, but later may be extended up to 24 months for the completion of successful work. The researcher may spend up to six months of the year at a research institute in any other European country (except his own) if this is necessary to carry out the project.

Besides research subsidies, the fund annually awards up to 2,000 research prizes to universally recognized foreign scientists. Prize winners are invited to conduct research projects of their choice in German institutes for a period of up to 12 months. Nomination for a prize is made by well-known German scientists. Applications are not accepted from the candidates themselves. The size of the research prizes fluctuates from 20,000 to 120,000 DM.

Agreements had been concluded between the fund and organizations of the former USSR, according to which the sides reciprocally awarded an identical number of research prizes, with which our and the German scientists may conduct research (of their choice) in the partner country.

Jointly with the Max Planck Society, the fund annually awards 20 research prizes for the conduct of joint work by German and foreign scientists. The size of the prizes reaches up to 200,000 DM. They are allocated for a period of up to three years.

Detailed information about the Alexander von Humboldt Fund is available at the Association for Post-Graduate Education (103050, Moscow, Sadovaya Triumfalnaya St., D. 2/30).

#### **'POISK' Science News Briefs 25-31 July 1992**

927A0281B Moscow POISK in Russian No 31 (169),  
25-31 Jul 92 p 2

[Briefs]

[Text]

### **Aral Flowing into the Caspian**

Robert Kurmangaliyev, laboratory head at the Institute of Hydrogeology and Hydrophysics of the Academy of Sciences of Kazakhstan, doctor of geological and mineral sciences, reached this conclusion: "The research that I have done," the scientist states, "enables me to claim that the flooding of the shores of the Caspian valley will continue as long as the drying-up of the Aral has not stopped. The main cause is a violation of gravitational balance in the intercontinental region of Eurasia."

Incidentally, two years ago scientists at the Uzbek "Nature" Center presumed an outflow of Aral waters into the Caspian on the basis of a study of space photographs, and they also related this process to tectonic changes in the earth's core at this region. POISK reported this work. At that time, the Uzbek scientists were not believed. Perhaps R. Kurmangaliyev of Kazakhstan will be believed now? [Stanislav Fioletov, Tashkent]

### **Where Does the Wind Blow?**

As everyone knows, during the Chernobyl catastrophe the wind carried radioactive emissions to Belarus. During the accident at the Ignalinskaya AES [nuclear power plant] in Lithuania, the wind also blew persistently toward Belarus. Ecologists confirm that the accident, which happened on 20 July, did carry in emissions, especially of toxic helium. However, I. Matviyenko, head of the Belarusian Radiological Center, affirms that the situation in the emission region is normal. [Larisa Sayenko, Minsk].

### **'Blue Helmets' of the WHO**

A working conference of the European Regional Bureau of the World Health Organization was held in Minsk. It was a question of coordinating efforts against the spread of HIV infection. Western scientists are predicting an AIDS epidemic in countries of the former USSR in the near future. The European community is prepared to supply diagnostic equipment and testing systems to the CIS. However, we already have some experience. For instance, the staff at a center for the struggle against AIDS in one of the Baltic states includes... homosexuals. For a moderate salary, they are propagandizing the rules of safe sex in their own community.

Figure: This year, almost 50 percent of the graduates of Russian VUZs will not find work in their specialty.

Quotation: "We must use the intellectual resources of foreign countries, invite foreigners for participation... in work in different sectors, for instance, in the area of education, of technical reconstruction... Before we arranged a mass of banquets for them and held ceremonies, but we treated little for advice and help in work."— [Deng Xiaoping]

Fact: In July 1992, the U.S. Senate issued a decree on the allocation of free aid to Russia, in the context of which

the allocation of 100 million U.S. dollars for the development of education was stipulated. The bill, drafted jointly with associates of the Ministry of Education, was submitted for consideration by the lower house of Congress.

**The RAN has organized the "Oil and Gas" Symposium in Moscow.** Academy President Yu. Osipov, academicians I. Makarov, S. Yemelyanov, R. Higmatulin, and N. Sheremet'yevskiy, scientists from academic institutes and Moscow State University, and representatives of foreign companies participated in it.

The Academy of Sciences made a proposal to the government to transfer a part of the oil and gas industries of Russia to its auspices, in order to create model "oases" of the oil- and gas-extracting industries there. The RAN will undertake scientific leadership of the project, which calls for investments and involvement in development work by foreign companies. It is also planned to create an "Oil and Gas of Russia" fund and a fund for the development of science, which would be maintained at the expense of the profits from oil and gas extraction.

**A RAN Council on Space will be organized under the presidium of the Russian Academy of Sciences.** Having issued a decree on this, the presidium of the RAN did its part to fulfill the RF President's Edict "On the Structure for Managing Space Activity in the Russian Federation."

The council will analyze the contemporary state of basic space research and forecast its development. Along with the Russian Space Agency under the RF government, it will shape the draft of the state space program. The council is entrusted with completing all the affairs of the Interdepartmental Scientific and Technical Council on Space Research under the USSR Academy of Sciences and of the "Interkosmos" Council.

**The Geophysical Center of the RAN will be organized on the basis of the interdepartmental geophysical committee of the USSR Academy of Sciences.**

It will assume the rights of a scientific research institute as part of the Department of Geology, Geophysics, Geochemistry and Mining Sciences and will take its place in the system of world geophysical data centers. Its tasks will be: information support for basic research in the field of planetary geophysics, performing the functions of a world data center in solar-earth physics and the physics of solid land. The RAN Presidium has also given

the center the role of the base organization for the academy's national geophysical committee. Gennadiy Sobolev, doctor of physical and mathematical sciences, was appointed acting director.

**The RAN will become co-founder of the journal EKOLOGIYA CHELOVEKA.** It will be published in Arkhangelsk by the "Northern Technopolis" Association. The Russian Academy of Medical Sciences is also acting as one of the co-founders. The RAN Presidium has agreed to the appointment of Pavel Sidorov, corresponding member of the Russian Academy of Natural Sciences, as editor of the journal.

**As POISK reported, the Committee on Higher Education of Minnauki passed a resolution on the procedure for accepting and instructing citizens of "distant foreign countries" in Russia.** According to it, a Russian VUZ should receive no less than 1,300 U.S. dollars a year for instruction of a foreign student in a preparatory department, 1,800 dollars a year—in basic departments, and 2,500 dollars a year for instruction as a graduate student and special course work not leading to a degree, and 350 dollars a month for skill-raising courses.

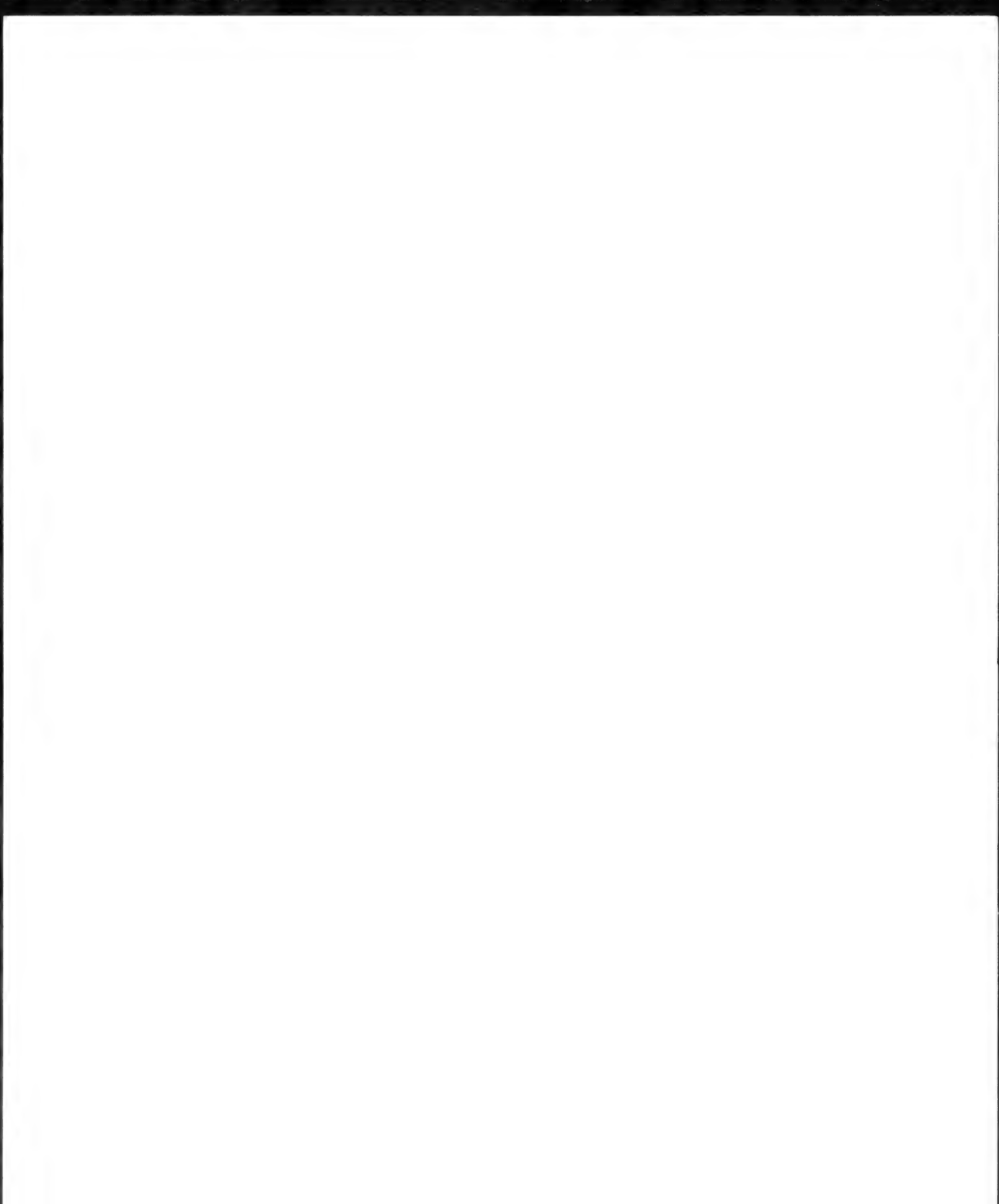
**Ten paid months in the VUZs of Moscow and St. Petersburg were granted this year to Russian-speaking students from Estonia.** However, the government of the Baltic state promised a sum of 100,000 rubles a year for each excessive or cancelled agreement.

**Rectors of the pedagogical VUZs of Russia have sent an appeal to the President, Supreme Soviet, and government of the Russian Federation.** It states that the pedagogical VUZs are on the verge of catastrophe. The rectors believe that the transfer of pedagogical educational institutions from the federal to the municipal level of management and financing is completely unacceptable at this time. This will lead to destruction of the standardized system for training cadres and the disruption of scientific studies in these VUZs. The letter's authors are demanding permission for paid education in the higher pedagogical educational institutions, with the compensation of expenses for instruction not only by legal, but also by physical persons, and the abolishment of taxes on the commercial activity of pedagogical VUZs. "We consider it our duty to convey the information," the appeal states. "that failure to fulfill the President's Ukase No. 1 threatens to disrupt the new school year in Russia's entire educational system."

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presidium of the RAS. Academician V. Zuyev cited cases of the obvious understatement by western partners of the value (in hard currency) of the labor of our scientists and the results of scientific research. As Vice President of the RAS A. Gonchar explained, foreigners are oriented toward the ruble equivalent and the amount of the wage in the Russian Federation. Many scientific institutions are addressing to the leadership of the RAS requests to permit their scientists to earn at least \$100 each a month, for in Russia such money is substantial support.

**The decree of the government of the Russian Federation "On the Joint Project of the Nauchnyy tsentr State Scientific and Technical Concern With the IBM Corporation (the United States)" has appeared.** The government endorsed the joint project on the production in Russia of personal computers with the IBM trademark. The computers will be sold on the territory of Russian for rubles at prices, which are formed with allowance for the lower expenditures on the production of similar computers in Russia than the expenditures of IBM in other countries.

In 1994 the production of not less than 50,000 computers is planned. Moreover, the share of domestic

The seminar is open to all specialists who are interested in the scientific problems and practical work of the higher school and the system of the advanced training of personnel.

The meetings of the seminar will be held on the last Friday of every month in the meeting hall of the Committee for the Higher School on Ulitsa Shabolovka, Building 33 (the Shabolovskaya Metro Station). The start is at 1500.

Telephone number: 369-67-73, fax number: 369-58-13.

**'POISK' Science News Briefs 16-22 October 1992**

937A0045B Moscow POISK in Russian No 42 (180),  
16-22 Oct 92 p 2

[Article]

[Text] **It Is a Frightening Word, "Nostrification"**

Without waiting for the passage of the law on scientific activity, which has gotten bogged down in parliament, the Council for Science of Latvia has begun nostrification,

The Russian Academy of Sciences, in the opinion of Academician L. Keldysh, will need 1 trillion rubles in order to work at the world level.

#### Quotation

"I once looked in on an economics lecture at one of our higher educational institutions. And it took me enormous efforts to keep from fainting—the level of knowledge of the students considerably exceeded the level of knowledge of the professor. This, I think, is not an isolated case."

Academician Stanislav Shatalin

#### Fact

The four laws on intellectual property, which were passed by the Supreme Soviet of the Russian Federation, have gone all the stages of conciliation. In the near future the laws will be published.

The draft of a copyright, on which a working group of the Committee for Science and Public Education of the Supreme Soviet of the Russian Federation worked, is

tional book exchange, and on the improvement of information and scientific cooperation in the area of the facsimile publication of ancient manuscripts and books."

At the State Polytechnical Museum the first meeting of the Methods Council of the Museum for Education, which is called upon to promote the formation of the State Polytechnical Museum as a center of education and enlightenment, was held. At the meeting of the council several directions of subsequent work were specified: with school children and young people (museum pedagogy), with specialists (various seminars and courses), and with the audience at large.

#### 'POISK' Science News Briefs 3-9 October 1992

937A0041A Moscow POISK in Russian No 41 (179), 3-9 Oct 92 p 2

[Article]

[Text] Figure

than the others: the History Department—R38.6 million, the Literature and Language Department—R29.6 million, and the Mathematics Department—R11.9 million.

**The joint council of the RAS for the study of the Arctic and the Antarctic is being organized under the presidium of the RAS.** It will replace the interdepartmental commissions for the study of the Arctic and the Antarctic, which operated under the presidium of the USSR Academy of Science.

**One of the provisions of the decree of the presidium of the Academy of Sciences "On Salary Increments for Executives of Scientific Institutions of the Russian Academy of Sciences" has been changed.** It was decided to recommend to the departments of the RAS to establish the salary increments for executives of scientific institutions in the amount of up to 50 percent, regardless of the average amount of such salary increments for all associates.

**The Ministry of Science, the Higher School, and Technical Policy of Russia jointly with a number of other ministries will engage in the search for sources of the financing of a program on the development of equipment**

Science : But It Is Working in Their Country: On the Russian-German Seminar "The Experience of Reforming the Scientific and Technical Sphere of the New Lands of Germany"—first three paragraphs are RADIKAL introduction]

[Text] On 1-3 October a bilateral seminar, at which staff members of departments of the FRG (the Ministry for Economics, Research, and Technology, the Federal Council for Science, the Ministry for Science and Culture of Brandenburg Land) reported on the work on the reorganization of science in the new lands of the FRG for the purpose of its integration in the socioeconomic system of united Germany, was held in Moscow. On the Russian side the staff of the government and the Ministry of Science, the Higher School, and Technical Policy of Russia, the Analytical Center for Problems of Socioeconomic and Scientific and Technical Development of the Russian Academy of Sciences, and the Academy of the National Economy acted as the organizers of the seminar.

Along with purely information tasks the analysis of the situation in the scientific and technical sphere of Russia

The speakers regard as the first condition of the accomplishment of the restructuring of science of the former GDR the efficient political decisions, which were made by the highest organs of power of Germany and were recorded in the unification treaty and in other documents. There the basic goals and the scale of the problem were named, the period of its solution was established, responsibility was distributed among the participants in the work, and the amounts and forms of its financial support were specified. The concepts, the plans, the development of specific mechanisms (the stage which we simply cannot get past)—the performers should have done all this within the framework of the posed task, which was rigidly set and limited in time. These performers represented the basic parties to the process: the federal government, the governments of the federal lands, and the scientific institutions of all of Germany. All the parties were united in a supreme expert and consultative body—the Council for Science of the FRG, the composition of the commissions of which was enlarged by means of representatives of the new lands. The elaboration of recommendations, the coordination of the work, and the prompt evaluation of the intermediate results were the task of the council.

ists from institutes of the former GDR, who, however, were now working in new organizational surroundings. In practice in one year it was necessary to carry out the certification of personnel and research institutions (subdivisions), to make a decision on the specific forms of reorganization with allowance for the interests of all the parties concerned, and, finally, to implement these decisions.

The work consisted in the preparation and implementation of an entire package of measures which included:

- the abolition of the system of the centralized planning of the support of scientific activity and its replacement with the expert evaluation of the proposals of scientists;
- the establishment in place of old scientific institutions of new ones (institutes of the M. Planck Society, applied institutes of various sizes and forms) or affiliates of institutes which exist in the old lands of Germany;
- the support and reorganization of research centers which had proven their viability;

level of scientific organizations of the former GDR proved to be higher, a decision was made on the curtailment of the state financing of the corresponding institutions in West Germany.

The higher school experienced even more significant structural changes. In the GDR the system of specialized technical and agricultural educational institutions and so forth was highly developed following the Soviet model. The overall level of training at the overwhelming majority of these institutions and universities was extremely low, as were the changes of graduates on the open skilled labor market. The widely declared link between research institutes and higher educational institutions in practice was absent. Moreover, the centralized system formed the network of higher educational institutions practically without regard for the interests and needs of the regions, in which these higher educational institutions were located.

Meanwhile according to tradition in the FRG higher educational institutions are completely under the jurisdiction of the lands, which the federal government if

Particular attention when reorganizing the higher school, just as science as a whole, is being devoted to the problems of the social sciences, where not only students, but, as experience shows, to an even greater degree instructors and scientists need an elementary education in the problems of life in a free state and behavior in a market economy. Here are two examples, which were cited at the seminar and, in my opinion, are very interesting for our readers.

The FRG Ministry for Research and Technology annually receives bundles of letters from people, who require the support of their discoveries and inventions in connection with their importance for the economy and/or other needs of the country. These people cannot comprehend that the evaluation of discoveries and inventions, just as their introduction and duplication in a free society, is not a function of any department, but comes entirely under the jurisdiction of the scientific community, entrepreneurs, or various types of foundations.

The other example. The leadership of chemical institutes of the former GDR addressed to the government of the

country was conducted, so to speak, under the most smooth conditions, with alternative solutions and with the opportunity to compare alternative strategies and to counter quickly undesirable effects, by shifting for this large amounts of assets.

We received from our colleagues already prepared results. In a number of key points these results are unambiguous.

New structures, in which all the concerned parties are represented: science (scientists, but not scientific chiefs), the center and the regions (chiefs, but not scientists), are needed for the reform of science. The network of research institutions of basic science in an open society is formed as a part of the system of the international division of labor. The world level of research is the only possible one, others simply do not exist, just as (let us recall Bulgakov) sturgeon of second freshness does not exist.

Therefore, a significant and, perhaps, under our conditions the main part of the support of research should be

with increased living conditions, but want to have the conditions for productive work, will leave this system, and a mediocre mass will remain...."

Academician of the RAS [Russian Academy of Sciences] M. Styrikovich

#### **Fact**

Having had a shortfall in September of 4 billion rubles in its budget, the Ministry of Science, the Higher School, and Technical Policy left the budget of the RAS inviolable, having reduced in so doing the financing of other directions by 30-70 percent.

**A discussion of the draft of the edict of the president of the Russian Federation "On State Science Centers" took place in the presidium of the RAS.** Minister of Science, the Higher School, and Technical Policy B. Saltykov and V. Shorin, chairman of the Committee for Science and Public Education, attended the meeting.

In the words of the minister, the plan of the establishment of state science centers is one of the attempts at distinguishing the priorities in domestic science, which

Other scientists, who spoke against the registration of discoveries, consider that the existing system does not ensure an objective evaluation of scientific achievements.

Foreign practical experience testifies that the defense of scientific results and the recording of priority are accomplished by the norms of patent law and by a developed system of databases on scientific information. This makes it possible to save considerable assets and to eliminate the additional expenditures on state registration.

The presidium of the RAS made the decision that the state registration of discoveries is inexpedient.

**The new building of the International Mathematics Institute imeni Leonardo Euler, which was established three years ago, has been opened in St. Petersburg.** President of the RAS Academician Yu. Osipov, scientists from Sweden, Germany, Finland, and Japan, as well as mathematicians of Moscow and St. Petersburg participated in the opening ceremony.

tear) psychology. The candidate should be fluent in English.

The person who has taken this position will take part in administrative work and in the immediate future will have a chance to head the school.

The competition commission of Massey University will consider your candidacy, if by 10 October you send information about yourself on diskettes for the IBM PC (MS DOS) to the address: 103009, Moscow, Ulitsa Mokhovaya, 8, Building 5, the Psychology Faculty of Moscow State University, the Chair of General Psychology, A. Voyskunskiy.

**The East European Symposium on Biological Nitrogen Fixation, which is being held for the first time in Russia, is concluding its work in Saratov.** Representatives of 20 countries of the world came to the eighth symposium. They are discussing the problems of the use of biological means of plant protection for the purposes of the ecologization of agricultural production.

The Russian-American Pedagogical University has been established in Magadan.

**A meeting of the collegium of the Ministry of Science, the Higher School, and Technical Policy, at which the progress of the fulfillment of the work on the state scientific and technical program of Russia "The Human Genome" was discussed, has been held.** This is one of the "episodes" of the inventory of state scientific and technical programs of Russia, which is now being conducted in the ministry and as a result of which their number, perhaps, will be reduced.

The goal of the program is the complete decoding of the molecular structure of the human genome (the complement of its genes). Now 173 groups of researchers, which received grants on a competitive basis, as well as about 70 organizations and enterprises of Russia are working on its seven projects.

A number of most important results, among which it is possible to note the isolation of the gene of metastasis in

uate students of higher educational institutions, students of secondary specialized educational institutions and vocational and technical schools, and students of religious educational institutions by these institutions or are established by philanthropic foundations" are also not liable to taxation.

**A conference entitled "Productivity and the Market" will be held from 21 to 25 September in Moscow, at the Uzkoie Hotel of the Russian Academy of Sciences.** The institutors of the conference are the Russian Union of Industrialists-Entrepreneurs, the All-Russian Scientific Research Institute of Systems Research, and the fund for the promotion of privatization and foreign investments. The American national center for problems of productivity and the International Labor Organization will take part in its work.

**The 43d session of the UNESCO International Conference on Education has begun in Geneva.** The conference meets every two years and is the largest forum in the world in the area of education. The session that has

[Briefs]

[Text]

### **Wait For Me, Alexandria!**

**The Republic of Kazakhstan and the Arab Republic of Egypt have reached an agreement on cooperation in the area of science and education. The ministers of education of the two countries, as well as leaders of the Academy of Sciences of Kazakhstan and the Academy of Scientific Research and Technology of Egypt signed the corresponding documents in Alma-Ata.**

Already, many Kazakh students are starting the current school year within the walls of Alexandria University, and Egyptians are coming to Alma-Ata to study the Kazakh and Russian languages. The exchange of school-children, students, and teachers will become constant.

spirit heroic."—Dzh. Bruno

**Fact:** The Ministry of Education has created an Innovation Fund for developing education in the Russian Federation, the goal of which is to finance research, design, and application work in education.

**An interdepartmental work group formed on the government's order has prepared a draft edict of the RF President "On Russian Federation State Scientific Centers." It defines the organizational and legal form of GHTs [State Scientific Centers] and their status, and stipulates measures to support the operation of these centers. According to the concept of the draft's authors, a system of state scientific centers should be created in Russia.**

The draft was sent to interested ministries for coordination and presented to the RAN vice-presidents, academician-secretaries, and presidium members for development of a position.

**The initial reaction of RAN academicians to the appearance of the above-mentioned draft was basically negative.**

tion of changes and amendments to the Tax System of Russia." Now the law "On Payment for Land" states: VUZs, scientific research institutions, enterprises and organizations of the RAN, the Russian Academy of Medical Sciences, the Russian Academy of Agricultural Sciences, the Russian Academy of Education, and the state scientific centers, VUZs, and NIU (expansion unknown) of ministries and departments of the Russian Federation, which are on government-approved list, are entirely released from payment of the land tax.

**After release of the above-mentioned law, there were changes in articles of the law "On the Value-Added Tax" which concern science and education.** The following are now released from this tax: "the output of the private production of individual public catering enterprises (student and school cafeterias, cafeterias of other educational institutions) and services in the sphere of education related to the educational-production and upbringing process," NIOKR performed at the expense of the state budget as well as the resources of the Russian Fund for Basic Research, the Russian Technological Development Fund, and the extra-departmental funds of

Berlin in 1860 in memory of the outstanding scientist Alexander von Humboldt. Until 1923, it financed the research of German scientists abroad. The fund was re-established on 10 December 1953 as an independent private fund and was registered in Bad Godesberg (near Bonn).

In November 1989, physicist Reimar Lust was appointed president of the Humboldt Fund.

The fund annually awards about 600 research subsidies to highly qualified foreign scientists of up to 40 years of age who have the degree of doctor (candidate) of sciences, which enable them to conduct lengthy (one-two year) research in Germany. Applications are examined by the Central Selection Committee, chaired by the president of the German Research Society and consisting of 100 prominent German scientists from all disciplines. There are no restrictions based on country or discipline.

From 1953 to 1990, 11,760 scientists from 98 countries, of which 187 were from the USSR, have been awarded

research prizes, with which our and the German scientists may conduct research (of their choice) in the partner country.

Jointly with the Max Planck Society, the fund annually awards 20 research prizes for the conduct of joint work by German and foreign scientists. The size of the prizes reaches up to 200,000 DM. They are allocated for a period of up to three years.

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**'POISK' Science News Briefs 25-31 July 1992**

927A0281B Moscow *POISK* in Russian No 31 (169), 25-31 Jul 92 p 2

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12 January 1993

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